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USE AND ABUSE OF ANTIBIOTICS*

ERWIN NETER, M.D., F.A.P.H.A.,
Attending Bacteriologist, Children's Hospital, Assistant Professor of Pediatrics,
and Assistant Professor of Bacteriology,
University of Buffalo, School of Medicine,
Buffalo, New York

This year we are celebrating the one-hundredth anniversary of the birth of the scientist who is justly regarded as the founder of modern chemotherapy. It was Paul Ehrlich who pursued the search for chemical compounds which are detrimental to pathogenic microbes and innocuous to the human host. Fundamental researches lead him to the discovery of arsphenamine, which, as you all know, was used for many years in the treatment of syphilis and other spirochetal infections. Ehrlich deserved the Nobel prize for this discovery, but, more than that, he deserved this honor for having established a new approach to the specific therapy of infectious diseases. His dreams and hopes have been fulfilled today as never before.

There is another anniversary we are celebrating this year. Twenty-five years ago this month, there was in press in the *British Journal of Experimental Pathology* a paper by Alexander Fleming in which this Nobel prize winner described the discovery of penicillin, a drug which, unhappily, remained practically unknown for a decade, when its clinical usefulness was demonstrated by two other Nobel prize winners, Florey and Chain. These fundamental studies opened the way to the discovery of numerous other similarly active and clinically useful drugs, the antibiotics.

Those of us who have been in medicine during the last two decades have witnessed the extraordinary advances made in the treatment and prophylaxis of infectious diseases that began with the introduction of the sulfonamides and were followed by the use of an ever increasing number of antibiotics. One cannot fail to realize how much this progress has revolutionized every phase and specialty of medicine.

Diseases which until 1935 were almost invariably fatal, such as meningitis, subacute bacterial endocarditis, and many others, can be cured more often than not by the appropriate antibiotic. Whooping cough, which caused the death of 25% of infants under two years of age, is no longer the dreaded disease it was just a few years ago. Serious complications of certain infections have almost completely disappeared because of antibiotic treatment of the primary infection, as exemplified by the extraordinarily low incidence of empyema in cases of pneumonia and of mastoiditis in patients with otitis media. Specific agents at long last are available for the treatment of typhoid fever, tuberculosis, rickettsial diseases, including typhus fever, and many other maladies.

At the same time all of us must be painfully aware of the fact that we are still lacking chemotherapeutic or antibiotic agents which are curative in diseases caused by the true viruses, such as influenza, measles, poliomyelitis, encephalitis, infectious hepatitis, and many others. Furthermore, it has become clear that antibiotic therapy may result in certain undesirable side-effects. In the first place, we have to consider toxic effects of certain antibiotics. Secondly, patients may be, or may become, allergic to some of the antibiotic agents. Thirdly, antibiotics used for the treatment of certain infections may be responsible for the development of so-called superinfections, partly because the particular antibiotic is ineffective against the secondary pathogen and partly because the antibiotic may suppress certain normally present microorganisms, an event, which, in turn, may facilitate the multiplication of the secondary pathogen. Fourthly, antibiotics, particularly streptomycin, may contribute to the emergence, and thus to the dissemination, of antibiotic-resistant bacteria.

This morning, I shall select for discussion a few of the more important and more recent developments

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XUM

in the field of antibiotic therapy, fully aware that it is impossible to do justice in the limited time available to so important and large a subject.

SELECTION OF THE APPROPRIATE ANTIBIOTIC

One of the important problems facing the practitioner as well as the specialist in the treatment of various infections is that of the selection of the best anti-infective agent. It is true that the availability of the broad-spectrum antibiotics and of certain combinations of other antibiotics makes this decision relatively easy in many instances. On the other hand, it cannot be stressed enough that, for serious or potentially serious infections, at least, this decision rests largely on the proper etiological diagnosis of the infectious process. In many instances the practitioner can make the correct diagnosis on clinical grounds. Often, however, appropriate laboratory examinations are indispensable, in order to determine the etiological agent of an infectious disease. For example, bacteriological examination of the spinal fluid is necessary in order to ascertain whether meningitis is due to the meningococcus, influenza bacillus, streptococcus, or pneumococcus. Obviously, it is physically impossible to carry out bacteriological procedures in every patient with an infectious disease. On the other hand, it is up to the clinician to recognize the cases whose recovery depend upon early and definitive diagnosis and appropriate therapy, a challenge, indeed, to his diagnostic acumen.

The practitioner must be aware of the fact that meningitis in early infancy may be present in the absence of fever and classical meningeal signs and that it is better to do several spinal taps unnecessarily than to do one too late. Likewise, sepsis in the newborn and particularly in the premature infant may be present in the absence of an elevated temperature. The appearance of a few petechiae in the beginning of an infectious disease and in the absence of hematological disorders should suggest the possibility of a meningococcal infection; in such a case a delay of hours in diagnosis and treatment may profoundly influence the outcome of the disease.

Once the clinical and etiological diagnosis has been made, it is frequently possible without sensitivity tests to select the most effective chemotherapeutic regime on the basis of past experience. For instance, a diagnosis of meningococcal meningitis suggests as the best anti-infective agents sulfonamides and/or penicillin. If the meningitis is due to *Hemophilus influenzae,* chloromycetin or terramycin together with a sulfonamide compound are the drugs of choice. Again, if the infecting microorganism is a penumococcus, very large doses of penicillin are required. The antibiotic therapy of choice in typhoid fever is chloromycetin; that in tuberculosis is a combination of streptomycin and isonicotinic acid derivatives; and that in rickettsial diseases one of the broad-spectrum antibiotics, aureomycin or terramycin. Numerous other examples of this type could be cited.

There are a number of infections caused by bacteria which vary in their sensitivity to various antibiotics from strain to strain and from year to year. In such instances we have to decide from case to case as to which is the best antibiotic. No better illustration of the changing pattern of sensitivity can be given than that of staphylococcal infections. Whereas in the beginning of the penicillin era the majority of strains of staphylococci proved to be sensitive to this antibiotic, at the present time 50% or more are highly resistant. Fortunately, for the treatment of penicillin-resistant staphylococcal infections a new antibiotic is now available, namely, erythromycin. Up to this time, most strains of staphylococci are susceptible to erythromycin, even strains which are resistant to many other clinically used antibiotics. Whether in due time a large percentage of staphylococci encountered in clinical infections will become resistant to erythromycin remains to be seen. Similar to staphylococci, various gram-negative bacilli, such as *Escherichia coli, Aerobacter aerogenes* and others, vary markedly from strain to strain in their sensitivity to different antibiotics. In these and many other instances the clinician may be aided by the results of an *in vitro* determination of the sensitivity of the infecting microorganism to various antibiotics.

LABORATORY DETERMINATION OF ANTIBIOTIC SENSITIVITY OF BACTERIA

From a practical point of view the *in vitro* determination of the sensitivity of various pathogenic bacteria is indicated whenever, on the basis of past experience, the particular type of microorganism is known to vary considerably in its susceptibility to various antibiotics from strain to strain. On the other hand, such determinations are not needed when it is known that the particular species is almost al-

ways susceptible to a given antibiotic. To illustrate: From a practical point of view, all strains of Group A hemolytic streptococci, pneumococci, and gonococci are sensitive to penicillin. Therefore, it is usually unnecessary for the clinician to request such tests on a routine basis and to add to the ever increasing load of diagnostic laboratories.

Two principle methods are available for the *in vitro* determination of bacterial susceptibility to antibiotics, namely, the tube dilution method and the disc method. With all due regard to the shortcomings of the disc method, this method gives valuable help to the clinician, provided that it is correctly done and properly interpreted. To my mind, this method can be readily carried out in the average hospital laboratory, but the results must not be interpreted quantitatively. It would be a serious mistake to consider one antibiotic superior to another one used in like concentration because the zone of inhibition is larger. So many factors complicate the results of this test that the laboratory should report only whether the strain is sensitive or resistant. If used in this fashion, this test can be of real value to the practicing physician. It must be stressed that the tube dilution method yields far more accurate results than the disc method. However, many laboratories lack the facilities for performing the tube dilution method on a routine basis.

NEWER ANTIBIOTICS

Among the more recently discovered antibiotics several have already proved their usefulness in clinical practice.

Erythromycin resembles penicillin in its spectrum of activity, inasmuch as it is effective against gram-positive bacteria and largely ineffectual against many gram-negative bacilli. Therefore, it is not a broad-spectrum antibiotic, such as the tetracyclines (aureomycin, terramycin, achromycin or tetracyn). Strains of staphylococci which are resistant to penicillin are very frequently susceptible to erythromycin. Thus, this antibiotic has its greatest usefulness in penicillin-resistant staphylococcal infections. Recently, together with Dr. Selkirk, we had the opportunity to use the injectable erythromycin in an outbreak of impetigo among newborn infants. The infection, which had failed to respond to penicillin, cleared up promptly and the outbreak terminated. Similarly, two patients suffering from staphylococcal enteritis responded to this antibiotic.

Tetracycline, which is the basic part of both aureomycin and terramycin, has been shown to have a similar spectrum of activity as the latter drugs, but gastro-intestinal disturbances are encountered less frequently. At the present time, tetracycline, manufactured under various names, such as achromycin and tetracyn, may be used whenever either aureomycin or terramycin are indicated.

Neomycin, which was discovered a few years ago, appears to be of particular value in the preparation of patients for gastro-intestinal surgery and in the treatment of certain bacterial infections of the intestinal tract, such as infectious gastro-enteritis of infants associated with certain serogroups of *Escherichia coli.*

Great strides forward in the treatment of infectious diseases have been made recently not only with the discovery of new antibiotics but also by distinct improvements of previously known compounds. Penicillin has become readily available for oral administration. The physician must keep in mind that from 4 to 5 times as much penicillin should be given orally than is required for parenteral administration. The introduction of longer lasting penicillin preparations has made it possible to reduce the number of injections for the patients and to save time for physicians and nurses alike. Preparations, such as bicillin, after a single injection produce detectable blood levels for several days. Combinations of aqueous penicillin, procaine penicillin, and bicillin give high levels almost instantaneously and maintain detectable levels for a number of days. Thus, the physician has numerous penicillin regimes at his disposal. The choice depends, first of all, upon the type and severity of infection, and is influenced by such factors as to whether the patient is hospitalized, in bed at home, or ambulatory. In this connection it cannot be stressed enough that a given amount of penicillin may be entirely adequate for treatment of scarlet fever or pneumococcal pneumonia and yet be quite insufficient for the treatment of streptococcal or pneumococcal meningitis. Too often have we seen patients suffering from meningitis who were unsuccessfully treated with inadequate amounts of penicillin and promptly responded to this antibiotic in adequate dosage. In evaluating the status of patients suffering from various infections it is not only necessary to know whether antibiotics had been used during the earlier stages of the disease, but it is imperative to learn about the dosage,

XUM

schedule, and forms of preparations previously administered. An adequate evaluation is not possible if the history states only that, let us say, three injections of penicillin had been given: three injections of aqueous penicillin given over a seven-day period have an entirely different connotation than three injections of bicillin administered during the same period.

Progress is being made in the search for intramuscularly injectable broad-spectrum antibiotics. For example, terramycin is now available in such a form. Obviously, this method of administration has definite advantages over the intravenous route. Studies on intramuscularly injectable chloromycetin and erythromycin are in progress.

ANTIBIOTIC COMBINATIONS

A few comments are in order regarding the subject of the combined use of different antibiotics. Experimentally it has been shown, both in the test tube and in animals, that combination of two drugs, as compared to a single antibiotic, may have three different types of effects: (1) The combination may be additive. In this case the combination is just as effective as equivalent amounts of each antibiotic used. (2) The combination may be synergistic, being substantially more effective than either drug alone in equivalent amounts. (3) The combination may be antagonistic, being substantially less effective than either compound used alone. In these experiments it could be shown, largely through the investigations of Jawetz, that combination of two bactericidal drugs, penicillin and streptomycin, are frequently synergistic and that combination of a bactericidal and bacteriostatic drug, such as penicillin and aureomycin, may be antagonistic.

Although antibiotic antagonism has been demonstrated clearly in laboratory experiments, there is little evidence that it is of great importance in clinical practice. So many thousands of patients have been treated successfully by numerous combinations that deficiencies of this form of therapy should have come to light long ago. However, there is at least one instance in which this antagonism has been observed clinically, namely, in the treatment of pneumococcal meningitis. In this particular disease treatment with penicillin alone yielded results far more favorable than therapy with a combination of penicillin and aureomycin.

Combinations of antibiotics and of antibiotics and sulfonamides are clinically indicated under the following conditions:

(1) Such combinations are recommended, whenever synergistic effects may be anticipated. This is particularly so in the treatment of tuberculosis. It has been shown that combinations of streptomycin and PAS or of streptomycin and isonicotinic acid derivatives yield better results than streptomycin alone. This is probably due to the fact that the combined use of two anti-tuberculous drugs markedly delays or entirely prevents the emergence of drug-resistant tubercle bacilli. Recent evidence indicates that in sub-acute bacterial endocarditis, too, combined treatment with penicillin and streptomycin is superior to penicillin alone.

(2) Combination therapy is also indicated in infections caused by two or more microorganisms, inasmuch as one single antibiotic may not be effective against all pathogens present. As an example, peritonitis following appendicitis may be cited.

(3) Combinations of selected antibiotics may have to be used in bacterial infections in which the causative agent or agents have not been determined at the time that specific therapy is initiated. For example, penicillin and chloromycetin or penicillin, sulfadiazine, and chloromycetin may be given to a patient suffering from purulent meningitis under these conditions. Every effort should be made to determine the etiological agent of this and other serious infections, and, when the bacteriological diagnosis has been made, drugs no longer indicated should be discontinued.

ANTIBIOTIC RESISTANCE OF BACTERIA

It is well known that none of the antibiotics are effective against all microorganisms. The term spectrum of activity refers to the groups of microorganisms which are susceptible to a particular antibiotic. This innate resistance of certain bacteria to certain antibiotics depends upon the physiological characteristics of the microorganisms, namely, the growth requirements and enzymatic activities which are necessary for reproduction or survival. If an antibiotic interferes with one of these essential functions, it will inhibit the growth or even produce death. If, on the other hand, an antibiotic does not interfere with such an essential function, the microorganism will be resistant to its action. It should be stressed that the effects of antibiotics may be either direct or indirect and that extensive research is being

XUM

carried out in order to elucidate the modes of action of antibiotics. Results from such studies may lead to the discovery of new chemotherapeutic agents and may yield further insight into microbial physiology.

In addition to this innate resistance of various species of bacteria, strains belonging to one and the same species may be either resistant or susceptible to a given antibiotic. Such resistance may develop if the particular strain has an enzyme which interferes with the antibiotic. Certain strains of staphylococci, for example, are resistant to penicillin because of the production of penicillinase, an enzyme which destroys the antibiotic. Alternatively, strains may become resistant to a given antibiotic because they are capable of by-passing its detrimental effects. There can be no question that the development of resistance to certain antibiotics is frequently the result of mutation and selection. For example, as streptomycin-susceptible tubercle bacilli multiply, one mutant may arise which is streptomycin-resistant. Such mutations occur at random and at certain rates during multiplication, even in the absence of the antibiotic. As a result, among 100,000,000 bacterial cells all but one are susceptible to streptomycin. If this population is exposed to streptomycin, either in the test tube or in the animal host, all susceptible bacterial cells may be killed, but the lone mutant will survive. This surviving mutant in due time will have given rise to millions and millions of streptomycin-resistant tubercle bacilli. The possibility exists that developments of resistance may also take place as a result of an adaptative process in the bacterial cells during exposure to a particular antibiotic.

The emergence of drug-resistant bacterial cells in patients has considerable clinical importance. This problem is particularly serious in the case of streptomycin. If treatment with this antibiotic of patients suffering from urinary tract and other infections caused by gram-negative bacilli is not successful within a period of approximately 5 to 10 days, the possibility must be considered that these gram-negative bacilli may then have become resistant to streptomycin. Under these conditions it may be futile to continue streptomycin therapy; rather, the physician should consider the use of another antibiotic to which the selected mutants are still susceptible. The physician should keep in mind that streptomycin-resistant mutants may be many thousand times more resistant than the original parent strain and that increasing the dosage of the drug will be of little or no avail.

The emergence of streptomycin-resistant tubercle bacilli in patients undergoing streptomycin treatment has been demonstrated on numerous occasions. As mentioned a moment ago, the simultaneous use of a second anti-tuberculous drug delays or prevents this occurrence, and it is precisely for this reason that, whenever specific therapy is indicated, combined anti-tuberculous treatment is preferred.

Today we encounter penicillin-resistant staphylococci in human infections far more frequently than 10 years ago. This changing pattern is probably due to the widespread use of this antibiotic. On the other hand, penicillin-resistance has not become a clinical problem in infections due to hemolytic streptococci of Group A, pneumococci, gonococci, and in syphilis. The reasons for the different behaviour of various bacterial species remain to be elucidated in the future.

Evidence has been presented that, with the widespread use of the tetracyclines, namely, terramycin and aureomycin, certain human pathogens have become somewhat more resistant than they were at the time that these antibiotics became generally available.

LIMITATIONS OF ANTIBIOTIC THERAPY

With the extraordinary advances resulting from antibiotic therapy in mind, one should not make the serious error of forgetting other forms of treatment. It is not necessary to go into details and it may suffice to illustrate this important point with one example. Antibiotic therapy frequently fails in patients with chronic or recurrent infections of the urinary tract, unless the underlying anatomical or physiological condition resulting in stasis is corrected.

PROPHYLACTIC USE OF ANTIBIOTICS

Antibiotics have been used with extradordinary success not only in the treatment of many infectious diseases, but are valuable also in the prophylaxis of certain maladies. Early and adequate treatment of pneumonia prevents empyema; antibiotic therapy of otitis media prevents mastoiditis, meningitis, and brain abscess; early treatment of osteomyelitis prevents complications requiring surgery. And, antibiotics have been used with success in the prevention of venereal disease following exposure to infected individuals. Another, to my mind, most important application of antibiotic prophylaxis is that of rheuma-

XUM

tic fever. It has been established beyond doubt that an infection with hemolytic streptococcus usually precedes an attack of rheumatic fever and serves in an as yet unexplained way as trigger mechanism; furthermore, a patient who has had one attack of this disease is prone to have other episodes, particularly during the first few years following recovery. Second and third attacks of rheumatic fever can be prevented frequently. Any patient who has had one attack of rheumatic fever should be given either sulfonamides or penicillin as a prophylactic measure against hemolytic streptococcal infection and therefore against another attack of rheumatic fever. Sulfonamides are cheaper than penicillin, but penicillin appears to be superior to the sulfonamides. Penicillin may be given by mouth or in the form of a long-lasting injectable preparation. Such a regime should be carried out on a year-round basis in areas where streptococcal infections are not uncommon even in the summer. Together with Drs. Lambert and Webster we have used bicillin (200,000 U) by mouth twice a day in a group of rheumatic patients and have not encountered a recurrent attack of this disease. This prophylaxis should be started as soon as rheumatic fever has been recognized. It should be stressed that larger doses of penicillin may be required to eliminate hemolytic streptococci from the upper respiratory tract than to prevent their appearance. For this reason, we treat patients with rheumatic fever who harbor hemolytic streptococci with full doses of penicillin and follow with oral bicillin as mentioned a moment ago. The prophylactic regime should be carried out for at least 5 years following an attack of rheumatic fever or until puberty. Another, though less, effective way of preventing this malady consists in treatment of all acute respiratory infections in individuals who have had rheumatic fever within 5 years. This method is distinctly inferior to penicillin prophylaxis, because so often infection with hemolytic streptococci does not produce symptoms of a sufficient degree to induce the patient to seek medical advice.

Very recently it has been shown, largely through the studies of Dr. Rammelkamp, that infection with but a few of the 40 types of Group A hemolytic streptococci are frequently complicated by glomerulonephritis. If an outbreak with one of these types, particularly type 12, should be present in a community, prophylactic administration of penicillin may prevent this kidney disease. According to Dr. Denny (personal communication) early treatment of such a streptococcal infection, too, may lower the incidence of glomerulonephritis.

Penicillin has proved to be of real value also in the prevention of subacute bacterial endocarditis. It is known that this formerly almost invariably fatal disease develops in patients with congenital heart disease and in individuals who had rheumatic fever with cardiac involvement. Operative procedures in the mouth, including tonsillectomy and tooth extraction, may initiate this infection by Streptococcus viridans. Whenever such surgical procedures are contemplated on a patient with one of the above mentioned heart conditions, it is advisable to administer penicillin prior and subsequent to surgery. Very recently, we have seen subacute bacterial endocarditis following tooth extraction in a patient who had not been given the benefit of this prophylaxis. It is the family physician who has the greatest opportunity to make sure that these measures are taken in an individual who may be a candidate for subacute bacterial endocarditis. Studies are needed to determine the most effective regime for the prevention of this disease caused by penicillin-resistant bacteria.

SIDE-EFFECTS OF ANTIBIOTIC THERAPY

A few comments may now be made regarding some of the side-effects of antibiotic therapy. Let us consider first the primary toxicity of antibiotics.

Fleming was not only the genius who observed, as many others had done before him, the phenomenon of antibiosis and undertook the basic research that lead to the discovery of penicillin, but he was also a very lucky man, since the compound he discovered is extraordinary in its efficacy and lack of toxicity. If we keep in mind that less than 100,000 units of penicillin a day was used with success in the early days of penicillin therapy and that today as much as 50,000,000 units a day are used without encountering toxicity, we realize that penicillin is fundamentally devoid of primary toxicity. There is no antibiotic or chemotherapeutic agent which may be given safely in doses 100 to 500 times larger than the minimal effective dose. Certainly, no one would recommend 100 grams of streptomycin a day or 100 grams of aureomycin or terramycin!

So far as streptomycin and dihydro-streptomycin are concerned, toxic effects, resulting in deafness, can be largely prevented if dihydro-streptomycin is used

XUM

for short-range treatment, up to three months, and streptomycin for long-range treatment, or if a combination of these compounds (one-half of the indicated dose of each) is employed.

At the present time chloramphenicol is used in a few infections only because of the occurrence of blood dyscrasia. There can be little doubt that only a very small percentage (1 in 40,000) of individuals who have been treated with this highly effective antibiotic have developed this complication. The reason why this drug appears to have this effect in so few instances and be devoid of toxicity in almost all other individuals is still a mystery. Chloromycetin remains the drug of choice in typhoid fever, and we continue using it with success in meningitis due to *Hemophilus influenzae* and certain other bacterial infections of children which do not respond readily to other antibiotics. We have employed, without serious side-effects, the injectable form of choloromycetin in more than 150 infants and children.

Allergic reactions represent a second type of undesirable side-effects of antibiotic therapy. It must be stressed that the indiscriminate use of penicillin and other antibiotics may result in undue sensitization of individuals who later may be in dire need of these antibiotics. Should a patient be allergic to penicillin G, and require penicillin, it is advisable to use penicillin 0, since some patients are not sensitive to the latter preparation, although they are to the former.

Thirdly, the possibility exists that certain forms of vitamin deficiency may develop following prolonged administration of sulfonamides and antibiotics.

There remains to be discussed yet another side-effect of antibiotic therapy, namely, superinfections.

Superinfections Complicating Antibiotic Therapy

It has been observed that following the prophylactic or therapeutic use of a given antibiotic an infection may develop which was not present at the initiation of therapy. We do not as yet know all the factors that contribute to this complication. However, it is clear that the antibiotic in use cannot be effective against the microbe causing the superinfection and that the latter potentially pathogenic microorganism must have been present in the patient or was introduced from without. For example, moniliasis may become clinically manifest as a superinfection of the mouth, rectum, vagina, or respiratory tract. It should be emphasized, however, that the demonstration in the laboratory of monilia in specimens of such patients does by no means always indicate that their presence is associated with clinical infection.

Superinfection in infants may be due to a variety of gram-negative bacilli and, in collaboration with Drs. Rubin, Haffner and McCurdy, we have observed the emergence of a gram-negative, bacillary flora in infants during penicillin therapy; the emergence of this flora not rarely was associated with exacerbation of the original respiratory disease and in four cases contributed to the fatal outcome. Interestingly, this change in the bacterial flora was less frequently encountered when broad-spectrum antibiotics were used alone. It must be stressed that these observations were made in a hospital environment, and it is likely that various gram-negative organisms, including Bacillus pyocyaneus, Bacillus proteus, and others, are present in larger numbers in such an environment than elsewhere. In fact, the problem of cross-infection has become again a serious one, at least, in some hospital wards. Furthermore, we must realize that premature babies and young infants as well as patients undergoing treatment with ACTH or cortisone may be more susceptible than other individuals to infection in general and therefore also to superinfection.

Another example of superinfection complicating antibiotic therapy is that of severe staphylococcal enteritis. Our pathologist, Dr. Terplan, had the unhappy opportunity of studying and reporting 11 such cases. Most tragically, antibiotics had been administered largely for prophylactic purposes prior to surgery. The evidence presented indicates that huge numbers of staphylococci were present in the intestinal tract and apparently were responsible for this fulminating disease. Since his report was published, Dr. Terplan has studied other cases of this type and we have observed both fatal and non-fatal instances in children. Similar experiences have been encountered elsewhere. Although a final explanation of the etiology and pathogenesis of this syndrome cannot be offered at this time, it seems likely that the effects of certain antibiotics on the normal flora may have facilitated the extraordinarily profuse growth of the staphylococcus, and it is conceivable

XUM

that staphylococcal toxin is responsible for the development of enteritis and profound shock.

It should be stressed that, if diarrhea develops during or following antibiotic therapy, every effort should be made to determine whether or not staphylococci can be incriminated. Information on this point may be obtained by means of microscopic examination of fecal material. Normally, gram-negative bacilli predominate. In the above cases, however, gram-positive cocci in clusters are seen almost exclusively. Such an examination takes but a few minutes, and the laboratory should inform the clinician of its findings at once. Cultural examination also should be carried out. In these cases Bacterium coli is either entirely absent or present only in small numbers. Since these staphylococci do not grow on the culture media usually employed in the examination of fecal specimens, it is imperative that the diagnostic laboratory of today use blood agar in conjunction with the other culture media. Should this complication occur, it must be recognized as soon as possible. Since the strains of staphylococci encountered in this condition are resistant to the antibiotic which aided in their emergence, it seems reasonable to advise the physician to discontinue the particular antibiotic and to employ the one, that, more often than not, is effective against this microorganism, namely, erythromycin.

USE AND ABUSE OF ANTIBIOTICS

There can be little question that antibiotics are often used without appropriate indications. The physician frequently finds himself in the following dilemma: If he prescribes an antibiotic for a minor, self-limited infection or for a disease which is known not to respond to this or any other antibiotic, he may regret this decision, particularly if the patient develops an allergic reaction or another side-effect. On the other hand, he will equally regret his decision not to have used an appropriate antibiotic, if the patient develops a preventable bacterial complication. Often it is difficult or even impossible to determine in the earliest stage of an infectious process whether the disease is mild and self-limited or will develop into a more serious malady. If such information were at hand with any degree of accuracy, the physician would be confronted with these problems far less often than he is today. The physician's position may be even more difficult if, as is not rarely the case, the patient requests treatment with antibiotics. Such pressure is readily understandable in view of the facts that the modern antibiotics have saved untold numbers of lives and have proved to be beneficial in so many diseases and because these advances in modern medicine have been justifiably brought to the public's attention. Perhaps some of the reports on these "wonder drugs" have created among the laity an exaggerated impression of their value without an understanding of their limitations. The physician's position can be made easier if all reports on the extraordinary advances made in medicine are presented in a clear, understandable, and objective way to the laity by competent individuals. Omissions of important facts can create erroneous opinions and impressions just as readily as a factually incorrect report. I am convinced that the public deserves to be kept abreast of advances in the field of medicine and of science in general. It behooves all of us to help in this endeavor, so that we may have an enlightened public, do not create false hopes and impressions, and thereby maintain and even improve the confidence of the public in the medical profession.

EMOTIONAL FACTORS IN ULCERATIVE COLITIS OF CHILDREN

Douglas Powers, M.D.,
and
B. M. McKay, M.D.,
University of Virginia Hospital,
Charlottesville, Virginia

That emotional tensions can have a profound influence on the function of the gastro-intestinal tract long has been known. Murray[1] in 1930 was one of the first to suggest that psychological factors play a role in the etiology of ulcerative colitis. Since that time many other investigators have corroborated his original observations. In 1939, White, Cobb, and Jones[2] concluded that mucous colitis is a physiological disorder of the colon brought about through the action of the parasympathetic nervous system and that the commonest source of this overstimulation is emotional tension. Wittkower[3], in 1938, reported a study of forty cases, showing that in thirty-seven of these cases psychiatric abnormalities were present before the onset of symptoms. Certain personality features such as over-conscientiousness, rigidity, dependence upon the opinion of others, and extreme sensitivity seem to be characteristic of these persons with ulcerative colitis. Many of the cases appear to have been precipitated by some severe traumatic, emotional experience.

An interesting and valuable experimental work was carried out by Grace, Wolf, and Wolff[4], utilizing four patients who had fistulae of the colon. Their conclusions were that feeling states characterized by anger and resentment are associated with hyperfunction of the colon, and that this hyperfunction is manifested by hyperemia, engorgement, hypermotility, and hypersecretion of mucus and of the enzyme lysozyme. They considered that the hyperfunction of the colon resulted in an increased fragility of the colonic mucosa, and noted that during periods of anger and resentment parts of the colon resembled the colon after administration of methacholine chloride. This observation is of interest in view of the work done by Wener and Simon[5] who produced ulcerative colitis in animals by the prolonged administration of methacholine chloride. Further, these investigators noted that sustained feelings of anger and resentment associated with sustained hyperfunction of the colon resulted in submucosal bleeding and ulceration.

Historically, Helmholz[6] was the first to report the condition of ulcerative colitis in children, describing five cases in 1923. This was followed by reports from several other authors, but no mention of emotional factors appeared in the literature until 1930 when Murray[7] called attention to this possibility. He pointed out the close relationship between emotional trauma and exacerbations in this illness. He described one case of a moderately "introspective" thirteen-year-old girl in whom improved mental hygiene seemed to have been responsible for a remission in the disease after all other methods were unsuccessful. His assumption was that through the autonomic nervous system alterations in the secretions and the tissues occurred which brought about the extensive ulceration in the colon. In 1935 Brust and Bargen[8] noted the similarities between the disease in children and adults but were of the opinion that when children are affected the illness is prone to be more severe and that the outcome is more likely to be fatal, and that responses of the children to treatment are less satisfactory than those of adults. Bargen and Helmholz[9], in 1940, reported the life histories of ninety-five children with chronic ulcerative colitis and stated that the condition is not so rare during infancy and childhood, that is, prior to the sixteenth year of life, as is generally believed. In their group of eight hundred seventy-one patients it was found that ninety-five of them (10.9 per cent) were afflicted with chronic ulcerative colitis in childhood.

Groen and Bastiaans[10], in 1951, reported a series of thirty-five cases of ulcerative colitis, twenty-nine of which were treated almost exclusively by supportive forms of psychotherapy, the patients being given constant sympathy, protection, and reassurance, and in addition to working with the patients an attempt was made to improve their social conditions

*From the Departments of Pediatrics, and Neurology and Psychiatry University of Virginia School of Medicine, Charlottesville, Va., in October 1953.

XUM

and to alter the attitudes of parents and of other significant persons in the environment. Their results compared favorably with those of other forms of treatment.

Since Murray's reference to probable psychogenic factors there has been a gradual recognition of certain personality characteristics associated with persons who have ulcerative colitis. Sperling[11] describes these children as being in a state of permanent frustration which results in unconscious rage with an urgency for immediate discharge. Even slight additional frustrations, such as medical procedures and dietary restrictions provoked exaggerated responses. She says that psychoanalysis is difficult in these cases and that treatment involves not only the child but must be extended to the family, particularly the mother.

Prugh[12], in 1951, reported on sixteen patients ranging from four years to nineteen years of age and described these children as passive, rigid, and dependent on parent figures, most often the mother. They were socially inhibited, narcissistic, and emotionally immature; and they showed compulsive needs to conform in an exaggerated maner to social dictates. The common denominator in these personalities appeared to be their relative inability to express effectively or in a balanced way strong feelings of anger or resentment, particularly in relation to parents or other figures of authority. The parents were described as being rigid, over-indulgent, and often inconsistent in their relation to the child, and this was especially applicable to the mother. It was thought that such parental attitudes led to overwhelming domination of the child, this domination being motivated by the parents' own unconscious emotional needs.

The interactions between parent and child appear to have started very early and are accentuated when habit training is started. At such times the child is faced with two possibilities, that of complying with the parent's desires and thereby receiving approval, or of not complying and receiving disapproval. The child with ulcerative colitis appears to have succumbed to the demands made on him and thus given up his right to self-assertion and self-expression; and at the same time he has experienced a strong feeling of rebellion toward the authority responsible for enforcing these excessive and unrealistic encroachments on his rights as a person.

The following cases are presented inasmuch as they show certain of the personality qualities discussed above.

CASE NO. 1: This seven-year-old white girl was admitted to this hospital for the first time early in 1953. She had been in good health until three weeks prior to admission when she rather suddenly developed a profuse diarrhea characterized by frequent watery, bloody, mucoid stools. She was hospitalized elsewhere and treated with penicillin, sulfa preparations, and streptomycin. A barium enema showed nothing but evidence of spasm, and proctoscopic examination revealed a hyperemic mucosa and what the operator thought were early ulcers. The diarrhea subsided somewhat but immediately resumed when she reached home following discharge from the hospital. She was referred here for further study.

Physical examination revealed a thin child who was well-developed but who appeared acutely ill. Temperature was normal, respirations twenty-two, and blood pressure was normal. She was severely dehydrated but otherwise the physical examination was negative.

Admission laboratory studies were as follows: urinalysis normal; RBC 4.1; WBC 7,600; differential showed a marked shift to the left with toxic granulation being present on the smear; hemoglobin thirteen grams. The tuberculin test and the serology were negative. Repeated stool cultures were negative. Stool routine showed a four plus benzidene, much mucus, and innumerable pus cells.

It was thought that the child probably had an infectious enteritis. She was fed intravenously for two days and was started on Terramycin. Improvement was prompt and at the end of forty-eight hours she was started on oral feedings and tolerated them well. The diarrhea ceased, and the child appeared to be well. She was discharged on the ninth hospital day and was to be followed by her local physician. The agglutinations for Brucella abortus were 1:40 and for Shigella flexnor 1:8; a repeat of these tests were advised.

The possibility of chronic ulcerative colitis was considered, but the diagnosis was deferred because of her prompt response to therapy.

The second admission was one week following her discharge from the first admission, and the complaints were the same. At the time of discharge she was having one or two well-formed bowel movements a day. Immediately upon reaching home she complained of cramping lower abdominal pain, and the

diarrhea started. The frequency ranged from twelve to twenty movements each day, and there was no associated nausea, vomiting, chills or fever. Apparently her appetite and fluid intake had been adequate.

Physical examination was not remarkable.

Laboratory work revealed a normal hemoglobin; WBC 11,620 with a moderate shift to the left on differential; urine negative except for two to ten WBC per high power field with rare clumps. Stools on admission were watery. No gross blood was seen, but there was a three plus benzidine, three to five WBC, and ten to thirty RBC; no starch, increased fat, or parasites were seen. Repeated stool cultures were negative for typhoid, paratyphoid, and amoebae. Agglutinations for typhoid, paratyphoid, and Shigella were all negative.

A proctoscopic examination revealed hyperemic areas with some ulcers which were bleeding. Biopsy of the ulcers showed long-standing sub-acute colitis with small points of ulceration.

The child was placed on a soft diet but was given no medication; and the diarrhea subsized within a few days, the stools being well formed.

The patient was given the Wechsler Intelligence Scale for Children and obtained an I. Q. of 114, which is high average. The Verbal Scale I. Q. was 104, and the Performance Scale I. Q. was 122. This large discrepancy of eighteen points between the verbal and performance I. Q. suggests emotional difficulties which might be impairing the verbal functioning. It was noted that she seemed to lack confidence in herself and would rather say that she did not know an answer than to attempt one. The overall impression on the Rorschach study was of a very constricted child who repressed her spontaneity and normal childish impulsivity. She gave several responses which reflected her ability to think with conformity and to share in group concepts, and she appeared to have good intellectual control and the ability to respond to common environmental stimuli. She was unable to incorporate color into her responses which suggested emotional constriction and an overly-guarded attitude toward emotional expression. There were few of the animal movement responses normal in children which suggested a denial or repression of her basic needs and drives, resulting in a lack of spontaneity. It was observed that children who show this constriction frequently have felt pressure to conform and to grow up in an attempt to abide by the wishes of adults, thereby denying their emotional spontaneity and immature impulses. The child did rather poorly with cards four and seven which many consider to be cards relating to parental figures. Her difficulty with these cards probably reflects anxiety in her relationship with the parents.

The little girl was seen in play therapy sessions during this hospitalization and was returned for three sessions following discharge. The first visit was a stormy one in that she was crying at the time the nurse brought her to the playroom, and she continued crying for several minutes saying that her mother was leaving the hospital and that she wanted to see her before she left for home. This seemed to be a valid request, and the patient was allowed to return to the ward. The next time she came into the playroom she again was crying very loudly and saying with considerable hostility that she did not want to go to the playroom and that she wanted to return to the ward. This behavior continued for most of the hour, and she announced that she would continue crying until she was allowed to return to the ward. Near the end of the session she ceased crying, however, and sat fairly calmly in a chair but made no attempt to play with any of the toys. The remainder of the time that she came to the playroom while in the hospital she did not cry but superficially gave a pleasing, docile appearance. She expressed little interest in any of the toys, but made some crayon drawings. On the first visit after her discharge from the hospital she again cried for a few minutes, but after the mother left the playroom she became calmer and talked more freely. There was preoccupation with the frequent stools, which had started again almost immediately after she was disharged from the hospital. Again there was no interest in the toys, but she made a crayon drawing of a house, as she had on a previous occasion. At all times when the family returned the child for play therapy she was dressed extremely meticulously and very immaculately. Each time she would come in clinging to the mother and would show reluctance to leaving the mother and cry briefly, but when the mother would leave she would become more cheerful and discard some of this dependent, clinging attitude which she always expressed when in the presence of the mother. If the conversation was anything other than of a superficial nature, the child was evasive or would not talk at all.

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The mother's first interview was with a psychiatric social worker, and she responded with tremendous hostility, relating that she had been criticized for the manner in which she had reared her daughter. Following this the mother was overtly hostile to the personnel on the ward and to the physicians. The father did not seem to be particularly upset, but he said very little and always seemed to play a passive role in the family. He appeared to have some insight into the emotional factors involved. Although the girl was returned on three occasions for play therapy sessions, at which time the mother was likewise interviewed, always there seemed to be much resentment on the part of the mother because she was asked to return the child. She complained frequently, and often in front of the child, that it was interferring with her work, that it was a lot of foolishness, and that the neighbors also thought she was not doing the right thing for her child.

The mother frequently remarked that she had been brought up in the same manner as she was bringing up her daughter and that she did not have ulcerative colitis. She was reared under rather strict, stern conditions and thought it was good for her child also. This little girl was not permitted to play with other children, if the play involved their getting dirt on the clothes or if the play was rough in nature. The parents were advised to allow the girl to continue school after discharge from the hospital, but this was not done. Both parents worked in the same place, on different shifts, but the mother did not return to work for a couple of weeks. However, when she did return to work the girl was left with various relatives for an hour or two each day since part of the time that the parents were away from home coincided. The child continued to sleep in the same room as her parents. In general the mother continued her possessive, dominating and controlling atitude toward the child. A third hospitalization was advised, but apparently they decided to seek help elsewhere.

CASE NO. 2: This nine-year-old white boy was admitted with the complaint of "ulcerative colitis". He had been in good physical health until four years prior to this admission when he developed signs that were suggestive of rheumatic fever. The diagnosis in another hospital at that time was arthritis. Two years before this admission he began to have some diarrhea, the stools containing blood and mucus. He returned to the same hospital where he had an excellent and exhaustive work-up with a diagnosis of ulcerative colitis. He improved following psychotherapy and had been doing well until about four months before this admission, at which time he experienced a return of all of the original symptoms referable to the gastro-intestinal system.

The physical examination revealed a quiet, well-developed, slightly malnourished child who was cooperative and who was very suspicious of the examinations. He was negativistic and seemed to be very intelligent. Except for the mild malnutrition the physical examination was not significant.

The plan was to repeat all of the investigative procedures; but because of absolute refusal of cooperation and because he had been studied thoroughly in the other hospital, it was thought that a repeat work-up would be more of a psychic shock to him than it would be of value at the present time.

Repeated urinalyses were negative. Stools passed during the first part of his hospitalization were liquid and contained large amounts of mucus and many white blood cells. Repeated stool examinations for parasites were negative. Routine agglutinations for typhoid, paratyphoid A and B, Shiga; Sonni, and Flexner were negative. Wassermann and Kahn reactions were negative. Hemoglobin was thirteen grams, RBC 3.95, WBC 18,500 with a shift to the left. Repeat blood counts revealed about the same findings except for the white count which returned to normal. Tuberculin tests were negative. Blood sugar was normal.

This patient was given the Wechsler Intelligence Scale for Children, The Rorschach, and the House-Tree-Person Test. On the Wechsler he scored a full scale I. Q. of 135; the verbal scale I. Q. was 135; the performance 128; and the vocabulary 125. Throughout the tests he was soft-spoken and often his voice was almost inaudible. He was intensely serious and overconcerned. A slight tremor of his dominant hand was noted. In all the tests he answered well the things he knew and would not attempt if he did not think that he knew the answer. The Rorschach feature which was most outstanding was the highly constricted state of his personality. He lacked the capacity for expressing emotions and seemed to repress all feelings and to avoid emotionally charged situations as much as possible. His interest in others seemed to be on a superficial basis, and his interpersonal relationships were not good.

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Deep-seated anxiety seemed to permeate this personality structure. The House-Tree-Person test did not show much productivity, and there was evidence of a highly constricted, inhibited child, as well as inner tension and feelings of environmental pressure. All of the tests delineated a very constricted, repressed, and anxious individual. There was evidence of poor relationships with the parents and some feelings of hostility, although at the same time it was thought that much of his aggressive feeling was repressed. The boy appeared to be exerting extremely rigid intellectual control over his feelings.

This boy was seen in play therapy sessions on several occasions and seemed to make considerable progress and appeared to be much happier as the sessions were continued. First he did not enter into the games, but later on he would play rather enthusiastically and showed considerable spontaneous behavior, often smiling and laughing. He told the therapist that he did not want to go back home because he was having such a good time at the hospital, and he discussed the unpleasantness and quarrelsomeness in his home situation. He confided that he would not mind going home for a visit just to see how things were, but that he didn't really think that it would be changed in any way.

It was thought that the mother was rather severely disturbed and that her handling of the child had been unfortunate, though well intentioned. There were many inconsistencies in her treatment of the child. She was described as being an intelligent, overly-intellectual, well-meaning mother who tried too hard to rear her children correctly. She was very aware of all the books on child management, but because of her own emotional difficulties seemed to lack the essential qualities of good interpersonal relationships. The mother felt guilty of the entire situation and seemed to be in great need of treatment herself.

Outwardly, the father appeared to be stable and fairly well adjusted, but at the same time was quite rigid and compulsive in many respects. He was given to outbursts of temper and rather inconsistent behavior in his relationships with the children.

Soon after admission the patient was given cortisone for about three weeks, at the same time he was receiving psychotherapy. He was given a regular diet and was allowed much freedom on the ward. The improvement was marked, and the entire family was referred to their local Child Guidance Clinic for continuing psychotherapy.

The second admission of this boy was six weeks following his discharge from the first admission, and the complaints were the same as before, the diarrhea with mucus and blood having started a week before admissions. The family had not followed through on the recommendations for psychotherapy. During the first few days of this hospitalization his temperature was as high as 102° F., and he was given cortisone and chloromycetin orally. The improvement was prompt. During the hospital stay he was again seen in play therapy sessions, and the parents were seen in interviews in an effort to solve the psychological problems. He was discharged on the nineteenth hospital day, and the parents again were urged to continue with their local guidance clinic.

DISCUSSION

Both of these cases illustrate similar characteristics. Each child was above average in intelligence, and they showed almost identical personality make-up. They were constricted with a repression of spontaneity. The capacity for expressing emotions was limited, and there was an avoidance of emotionally charged situations. Both showed evidences of deep-seated anxiety. Interpersonal relationships were on a very superficial basis, and each child seemed to repress considerable hostility.

In each case the mother was the more forceful parent, being unusually dominating, controlling, and rigid in her relationship to the child.

The onset of the diarrhea in the little girl is most interesting in that on three occasions when she returned to the family setting there was almost immediate recurrence.

Conditions for psychotherapy were far from ideal in these situations. However, therapy was directed toward enabling the child to express his emotions in a favorable setting, thereby releasing the inner tensions; and at the same time the therapy was aimed at altering of parental attitudes and in general improving the interpersonal relationships. These cases indicate some of the difficulties encountered in psychotherapy in ulcerative colitis and clearly show that treatment will have to be a continuing process.

SUMMARY

The emphasis in this presentation is on the emotional factors in ulcerative colitis in children. The contributions of some of the earlier writers is reviewed

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in such a manner as to point out the increasing interest in the psychosomatic nature of this disease. The general opinion is that these children have a personality make-up characterized by passivity, rigidity, dependency on parent figures, repression of hostility, and inability to express effectively their anger and resentment. The parents, most often the mother, appears to be an extremely dominating and controlling person. This behavior pattern in the child appears to have started in infancy and received reenforcement from the environment.

Treatment of ulcerative colitis is different in adults and particularly so in children; hence, in view of our present knowledge of the disease it seems advisable to approach it with the combined strengths of the pediatrician, surgeon, and psychiatrist.

Finally, two cases of ulcerative colitis in children are reviewed and the correlations discussed.

BIBLIOGRAPHY

1. Murray, C. D.: Psychogenic Factors in the Etiology of Ulcerative Colitis and Bloody Diarrhea, Am. Jour. M. Sc. **180**: 239 (Aug.) 1930.
2. White, B., Cobb, S., and Jones, C.: Mucous Colitis. A Psychological Medical Study of Sixty Cases, Psychosomatic Med. Monogr. **1**: No. 1, 1939.
3. Wittkower, E.: Ulcerative Colitis: Personality Studies, British Med. Jour. **2**: 1356-1360 (Dec. 31) 1938.
4. Grace, W. J., Holman, C. W., Wolf, S., and Wolff, H. G.: Action of Various Pharmacologic and Other Agents on the Colon of Man, Arch. Surg. **61**: 1036-1051 (Dec.) 1950.
5. Wener, H. E., and Simon, M. A.: The Production of Ulcerative Colitis in Dogs by the Prolonged Administration of Mecolyl, Gastroenterology, **12**: 637, 1949.
6. Helmholz, H. F.: Am. J. Dis. Child. **26**: 418 (Nov.) 1923.
7. Same as No. 1.
8. Brust, J. C., and Bargen, J. A.: Chronic Ulcerative Colitis Among Healthy Persons, Minnesota Medicine, **18**: 583-585 (Sept.) 1935.
9. Jackman, R. J., Bargen, J. A., and Helmholz, H. F.: Am. J. Dis. Child. **59**: 459 (March) 1940.
10. Groen, J., and Bastiaans, J.: Psychotherapy of Ulcerative Colitis, Gastroenterology, **17**: 344-352 (March) 1951.
11. Sperling, M.: Psychoanalytic Study of Ulcerative Colitis in Children, Psychoanalytic Quarterly, **15**: 302, (No. 3) 1946.
12. Prugh, D. G.: Influence of Emotional Factors in the Clinical Course of Ulcerative Colitis in Children, Gastroenterology, **18**: 339-354 (July) 1951.

Surgery for Diabetics.

Surgery has become as safe for the diabetic as for the non-diabetic, according to Dr. Charles R. Shuman, Temple University Hospital and School of Medicine, Philadelphia.

Dr. Shuman reported on a three-year study of 340 patients in the (June 12th) Journal of the American Medical Association.

These patients underwent 373 operations while under the supervision of the Temple University Hospital diabetic service. There were no deaths directly resulting from diabetes or its treatment.

"The number of diabetics who receive surgical treatment has steadily increased during the past three decades since the discovery of insulin and will continue to increase in future years. The diabetic patient is considered a safe subject for any type of surgery when modern methods of anesthesia, fluid and electrolyte replacement, antibiotic therapy and control of metabolism and nutrition are used."

Although heart disease and infection increase the risk during surgery and most of the patients studied suffered these complications, only nine patients died in the postoperative period. Although six patients suffered from uremia, a serious complication, four of them made successful recoveries. Complications of diabetes were more frequent in this study because most of the patients were over 45 yars old.

"The mortality and morbidity aspects of surgery in diabetics are more closely related to the disease necessitating surgery, the vascular complications of diabetes, and infections than to the diabetes itself."

Proper management of infections with antibiotics, and of heart ailments with drugs has "somewhat reduced" the importance of these factors.

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Medical Society of Virginia Cancer Committee

Chairman, George Cooper, Jr., M. D.

Medical School Building, University, Va.

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Case Reports

A 36 year old man was referred to a chest clinic by his family physician because of "failure of resolution of left lower lobe pneumonia." Four months before, the patient had developed an acute upper respiratory infection. Chemotherapy during most of the four month period had produced temporary relief but on the whole, symptoms had grown progressively worse and there had been a steady loss of weight and strength. On serial roentgenograms a density in the left base had not only persisted, it had grown denser. X-ray studies on admission to the chest clinic showed complete atelectasis of the left lower lobe. At bronchoscopy, a biopsy was obtained from a mass blocking the left lower lobe bronchus. The pathological report was carcinoma. At exploration, a condition that was hopelessly inoperable because of mediastinal invasion was found. Death followed in a few months.

Comment: 1. Infection behind a point of partial bronchial obstruction readily occurs. Even in early lung cancers, there is a history of a complicating pneumonia in 15 to 20 per cent of cases. The percentage becomes much higher in more advanced lesions.

2. Since the signs and symptoms of pulmonary infection secondary to a growing cancer are only those of uncomplicated pneumonitis, and since inflammation readily masks tumor on roentgen studies, all pneumonitis should be followed by serial roentgenograms until it has cleared.

3. Clinical response to treatment is no reason to omit serial x-ray studies. Not infrequently, the complicating infection clears up entirely under treatment, but this does not influence the underlying cancer.

4. When the x-ray findings interpreted as representing pneumonitis fail to clear up promptly, cancer at once becomes the primary consideration. The doctor who is not constantly alert to the possibility of cancer will seldom, if ever, reach a diagnosis early enough to hope for a cure.

A 47 year old man was referred to a chest clinic for evaluation of "an atypical tuberculosis." The story was that *two years before* a small infiltrate in the left apex had been discovered on a chest survey x-ray film. The patient had been closely followed ever since. Repeated sputum examinations had all been negative for tubercle bacilli. On serial x-ray studies, the infiltrate first disappeared, then recurred in the same spot, and slowly grew larger. On the more recent roentgenograms, the left hilar nodes were found to be enlarging.

Papanicolaou smears and bronchoscopy, in addition to more sputum examinations, were done at the clinic but were all negative. At exploratory thoracotomy, an inoperable carcinoma of the left upper lobe was found with extension into the hilar nodes and mediastinum. The patient died six months later.

Comment: 1. A carcinoma arising peripherally in an upper lobe often cannot be distinguished roentgenologically from tuberculosis. Also, it must be remembered that carcinoma and tuberculosis in the same lung is not a rare combination.

2. When a supposedly tuberculous lesion fails to show x-ray evidence of improvement after proper treatment, especially when the sputum contains no tubercle bacilli, the possibility of cancer must be investigated at once.

3. When the sputum is positive for tubercle bacilli but the clinical course and x-ray findings are atypical, the development of carcinoma should be suspected.

4. Exploratory thoracotomy is now such a safe procedure that no hesitation should be felt in resorting to it promptly in the face of an uncertain diagnosis.

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MANAGEMENT OF PERIPHERAL VASCULAR DISORDERS*

Nathan Bloom, M.D.,
Medical College of Virginia
Richmond, Virginia

There are many disorders that may affect the peripheral vascular tree, but in this discussion we will stress the more common diseases encountered in the Out-Patient Clinic of the Medical College of Virginia and our private files. These disorders are arterial embolism, thrombophlebitis, thromboangiitis obliterans, and arteriosclerosis obliterans.

Arterial embolism is often overlooked, especially in cardiacs with ectopic rhythms. Our attention is focussed on the clinical phenomena of heart failure, and peripheral edema may obscure any evidence of arterial damage. Often the patient is critically ill and no subjective reaction of peripheral malfunction can be elicited. The sudden development of a cold, painful extremity with lack of pulsation may be of disastrous consequence to a debilitated cardiac. Treatment must be prompt and adequate if the limb is to be saved. The lower extremity is usually involved and an extremity which has suffered an embolism is deprived of most of its blood supply. It is important not to elevate the limb because the blood pressure distal to the embolus is sharply reduced and is not adequate to force blood to the toes. In addition, when the extremity is raised the blood must be pushed uphill. Therefore, the proper position of the extremity is sloping downward. When the leg is dependent, the arterial circulation is aided by the action of gravity. So our first step is to raise the head of the bed on chairs or blocks. The level of the feet should be below that of the hips. When a major artery is suddenly blocked there is a marked associated spasm of all collateral arteries. Measures to relieve the spasm must be instituted. Occasionally Papaverine in 1 grain doses intravenously every two to four hours may relieve the spasm. Diathermy to the abdomen may also be helpful although we do not advocate local application of heat, as the effect of warmth on tissues is to increase the metabolic rate and also the need for oxygen. When the blood supply has been suddenly cut off, these needs cannot be met, and gangrene may spread if heat is applied directly to the involved limb. Sympathetic block or epidural block may decrease vasoconstriction at the onset of an arterial embolus and should be performed. Anticoagulants are indicated as soon as possible. We usually start by injecting 50 mgms. Heparin intravenously. This should be repeated in three hours, followed by Dicoumarol in dosages depending on the level of the prothrombin time.

Surgical removal of the embolus must be considered in every case. Conservative treatment is only justified for several hours, as best results from embolic removal are obtained if surgery is performed within the first twelve hours. Very often the patient does not enter the hospital until several days have elapsed. In these cases it is advisable to be very conservative, attempting to improve the general status of the patient. If gangrene develops in spite of all measures taken, amputation must be performed, but surgery may be delayed if there is not much pain or general toxemia with spreading infection. We always hope that the patient will develop dry gangrene and demarcate so that the leg could be amputated at a lower level.

Thrombophlebitis is very often the most difficult of peripheral vascular diseases to treat. Involvement of the superficial veins may be a benign and relatively simple condition frequently complicating varicose veins but also occurring as a migratory or traumatic reaction. The diagnosis of superficial thrombophlebitis is not difficult as the superficial veins are thickened, painful and tender. The danger of pulmonary embolism is remote. During the active stage elevation of the extremity and hot, wet compresses usually will be followed by improvement. As soon as possible the patient should apply an elastic bandage or stocking and begin ambulation.

Thrombophlebitis of the deep veins in the lower extremities may be much more serious, and at times extremely dangerous, because this type often results in pulmonary embolism or leaves the patient permanently disabled with chronic venous insufficiency. Deep thrombophlebitis may complicate any confining illness or major operation and should be prevented if possible by passive exercise of the lower limbs and elastic bandages post-operatively, followed by early ambulation. Prevention of a thrombotic

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XUM

process of the veins by any method at our disposal is better than attempting to cure this disturbance. The dangerous period is at the onset of the phlebitis because then loose thrombi begin to form in the deep veins of the calf. It is during this time when there are minimal symptoms and findings. One must attempt to recognize these trivial reactions in order to prevent a fatal pulmonary embolism. In some hospitals, prophylactic ligation of superficial femoral veins in elderly patients is advocated prior to major surgery. The finding of tender calf muscles or a positive Homan's sign warrants immediate anticoagulant therapy.

Chronic venous insufficiency is the end stage of deep vein phlebitis. This is one of the major problems in our clinic. The patients have large edematous legs, very unsightly and tender, and often complicated by post-thrombophlebitic ulcers. It is almost impossible to obtain healing of the ulcers unless the patient remains at complete bed rest over a long period of time. Plastic operations are unsatisfactory and very often elastic bandages or stockings do not control the edema. Although some observers advise sympathectomy, we have seen very little improvement following this procedure. Our best cases have been those individuals willing to spend several months in the hospital. Their general nutrition must be improved and any evidence of anemia should be corrected by transfusion. A combination of superficial femoral vein ligation and ligation of all communicating veins with full thickness skin grafts to the ulcer, judicious use of antibiotics and, in addition, sympathectomy, have proved more successful than any isolated procedure. Unfortunately, even with all of these methods there have been recurrences of edema and ulcers. Patients seldom die of chronic venous insufficiency but they certainly are very uncomfortable and unhappy. So the only hope is to prevent rather than cure deep vein thrombophlebitis. This means constantly being aware of this complication after operation and in debilitated patients at prolonged bed rest. Immediate prophylactic procedures, such as vein ligation or anticoagulant therapy, may prevent pulmonary embolism and chronic venous insufficiency.

Thromboangiitis obliterans is a fascinating malady but only occurs in about 3% of our patients with peripheral vascular disease. The etiology is unknown and few cases are seen early enough for us to study the beginning pathological process. Occasionally a superficial migratory phlebitis may herald the onset of this condition, but more often there is serious involvement of the arteries and veins in one or more extremity when the case is first seen. Intermittent claudication with absent peripheral pulsation in one or more vessels occurring in young individuals with or without superficial phlebitis is usually diagnostic of this malady. If any ulceration or gangrene is present, the patient must be treated in the hospital. Our approach to therapy will be discussed under the treatment of arteriosclerosis obliterans.

About 90% of our cases, both in our private files and the Out-Patient Clinic at the Medical College of Virginia are individuals with arteriosclerosis obliterans. Often this is a complication of diabetes. Usually the diabetes is of a mild nature but certainly diabetics develop arteriosclerosis much earlier and more often than normal individuals. We are not sure about why this occurs although it is probably related to the abnormal cholesterol reaction in diabetics. Most of these patients have a presenting symptom of intermittent claudication. Many have passed this stage and have already developed rest pain, ulceration, or gangrene of the toes.

In beginning our therapy, relief of pain is most important. An ideal approach would be to improve peripheral circulation and one would assume that with so many peripheral vasodilators on the market this would be simple, but in our experience up to this time there is no satisfactory drug available. We have tried them all, including Priscoline, Dibenzyline, Hydergine, Roniacal, hypertonic saline, Papaverine, and Ilidar. Most of these drugs are supposed to be ganglionic blocking agents, but unfortunately they cause general vasodilatation rather than local vasodilatation. At times the blood flow is actually lessened to the involved extremity as the sclerotic vessels are unable to dilate. Placing the patient at complete rest with slight dependence of the extremity will often relieve most of the pain. The application of heat to the body will improve peripheral blood flow but we do not advise direct heat to the involved extremity. Sometimes the only way to relieve severe foot pain is section of cutaneous nerves just above the ankle. Usually these incisions will heal and the patient obtains enough relief so that local treatment may be given to the ulcers about the toes and feet. Sympathectomy may be the procedure of choice in thromboangiitis obliterans but we are not too happy about this procedure in the elderly arteriosclerotic;

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but, at times, if the extremity has a tendency to perspire, sympathectomy may help.

All individuals with impaired circulation have to follow certain general rules. They are not allowed to smoke. It is well known that a certain amount of vasoconstriction is caused by smoking. Foot hygiene and foot care are very important. Fungous infections about the toes must be eradicated. We advise 1-10,000 potassium permanganate soaks every night and the application of Desenex ointment. The patient is taught to walk slowly, at times even acquiring a limp. This alone may be sufficient to prevent intermittent claudication. Minor abrasions or infections must be treated energetically. Antibiotics are given freely and very often have prevented amputation. We try to teach the patient how to live within his circulatory reserve and also explain in detail why it is necessary to follow our instructions as to smoking and foot hygiene. We have also found that close cooperation between surgeon, chiropodist, and internist, especially in the clinic, has saved many limbs from amputation.

In conclusion, we would like to emphasize the importance of diagnosing these conditions before gangrene has developed. If we are alert to the problem of peripheral vascular disease, often the diagnosis is simple. The combination of careful foot hygiene, restriction of smoking, teaching the patient, elimination of fungous infections, and the judicious use of antibiotics, should help save many of these patients from the tragedy of a blighted existence due to the loss of an extremity.

Relief from Severe Pain.

A new drug, already shown to be effective in controlling nausea, now promises to relieve pain in patients who no longer get adequate help from large doses of narcotics. The new drug chlorpromazine was found "useful" in such cases by five Illinois doctors who report on their findings in the June 12th Journal of the American Medical Association.

They said 22 of 28 patients treated with chlorpromazine in addition to narcotics or sedatives which had not helped alone were given "satisfactory relief" from severe abdominal, bone and nerve pain. Narcotics requirements also were reduced. Their study confirms earlier reports that the drug, originally developed by a French laboratory, relieves nausea and vomiting, they said. Four of five patients reported complete relief from nausea. The other was relieved of nausea but only slightly relieved of vomiting.

Two Canadian doctors reported earlier this year they had used the drug with "pronounced effect" in quieting severely excited patients without making them confused or otherwise inaccessible to psychotherapy.

The latest study was made on patients who were all "seriously ill." All had severe pain and all but one had cancer. Of the 18 hospitalized patients in the group, 14 were "satisfactorily relieved" by chlorpromazine, one got fair relief, and one reported no relief. Two other patients defaulted in taking medication. Of the 10 outpatients studied, eight were relieved and two reported no effect. A "singularly good effect" was reported by the two outpatients with cancer. Some patients whose pain was not actually changed "seemed to be more relaxed and less reactive to their pain." "They spoke of their pain as an objective phenomenon; that is, they no longer minded the pain, even though it was still present." Except for drowsiness, side-effects were "minimal." Ten of the 18 hospitalized patients reported drowsiness, five reported "dry mouth," and one suffered wild dreams, which may not have been caused by the drug, they said.

The report was made by Drs. Max S. Sadove, Myron J. Levin, Raymond F. Rose, Lester Schwartz, and Frederick W. Witt, of the Veterans Administration Hospital, Hines, Ill., and the University of Illinois College of Medicine, Chicago.

XUM

RUPTURE OF THE DESCENDING COLON—
Report of a Case*

RUSSELL BUXTON, M.D.,
Newport News, Va.

The following case, a patient with a previously asymptomatic obstructive carcinoma of the sigmoid colon and with subequent rupture of the descending colon, seems worth reporting because of the errors made in diagnosis and because of the interesting sequence of events which occurred during the course of the case.

The patient, a 64 year old white man, was admitted to the Elizabeth Buxton Hospital at 7:00 P.M. on March 3, 1952, with the story that he had been perfectly well until the morning of admission when he was awakened from sleep with pain in the right lower abdomen just above the symphysis. In a short time, the pain became quite severe and covered the entire abdomen and he called his family physician who gave him a hypodermic which did not give him any relief. Later in the day, he saw another physician who immediately referred him to the hospital by ambulance. According to the patient, there had never been any previous similar attacks and actually, he had no bowel symptoms of any kind except slight constipation. There had been no nausea, no vomiting, no jaundice, no urinary complaints, and no blood in the stools. The only significant finding in his past history was that he had been treated over a period of years for primary pernicious anemia. His family history was not obtained.

On admission, the patient was found to be disoriented, his temperature was 103, pulse 68, respiration 16 and his blood pressure was 125/70. The patient was quite knocked out and in shock. Examination of the chest revealed essentially normal findings. The abdomen was distended and no scars were noted. Palpation of the adbomen revealed marked tenderness in the right lower quadrant with spasticity of the entire right rectus muscle, but on the left side of the abdomen, however, there was no spasm. Peristalsis was absent. A rectal examination showed a normal anus, somewhat large prostate but was otherwise normal. The urine was red in color, apparently due to hemoglobinuria as there were only a few red cells found.

A urological consultation was obtained because of the location of pain and blood-colored urine, but the consultant, Dr. A. A. Creecy, did not feel that there was any change in the right kidney to account for the patient's pain. A blood count showed 5,480,000 red cells, 100% hemoglobin, 21,500 white cells with 82% polys but no evidence of primary anemia was noted on smears. A Mazzini blood test was negative. The first diagnostic impression was duodenal ulcer with perforation, but acute appendicitis and carcinoma of the cecum with perforation were also considered as possibilities. The patient was given intravenous fluids because of shock and a Levine tube was inserted for continuous gastric drainage and in a few hours the patient seemed much more comfortable.

The first day after admission, laboratory examination showed the red count to be 3,820,000, white count 14,150, with 87% polys, and the blood urea was 110 mgms. %, the hemotocrit was 38% and a stool specimen was positive for blood. Another urine specimen showed three plus red blood cells and a heavy trace of albumin. X-ray examination, with the patient in upright position, showed distended loops of the small bowel with some distention of the ascending colon. The following day, the patient's condition was good. He was rational and received fluids by vein and by mouth. On the next day, March 6th, the patient was greatly improved, his icterus index was 7 units, his blood urea was 60% and his abdomen was much less distended. By March 7th, four days after admission, the patient stated that he felt he was well. He was on a liquid diet, the Levine tube having been removed, and his abdomen was soft, but there was some tenderness in the right lower quadrant. His bowels were moving spontaneously, but the stools were still dark and foul, although re-examination of the rectum was negative. A urinalysis was normal. Because of apparent anemia (not borne out by blood studies) he was transfused on the 7th and 8th of March. By March 10th, one week after the onset, the patient seemed to be much better, he had no complaints, and rectal examination was again normal. On March 11th he was allowed out of bed and at this

*Read before the Virginia Surgical Society, at Hot Springs, Va., January 16, 1954.

time appendicitis with localized peritonitis was considered as the probable etiology of his condition and he was considered ready for discharge.

On the night of March 12th, the patient began to have severe pain in the right lower quadrant with some distention, and his temperature went up to 103. A Levine tube was reinserted and he was given infusions, and because he had gotten along so well under conservative treatment, it was again advised. However, the next day the patient was greatly distended and x-ray of the abdomen showed what appeared to be a large bowel obstruction and operation was deemed imperative. At this time, a diagnosis of rupture of a localized appendiceal abscess into the peritoneal cavity with generalized peritonitis was considered, and operation was advised with this as the preoperative diagnosis.

At operation, which was done under pentothal, nitrous oxide and curare, a right transverse incision was made and the following condition was found: There was fecal material free in the abdominal cavity. The ascending and transverse colon were found to be tremendously dilated and the small bowel was slightly dilated but it was adherent to a large mass on the left side of the abdomen. This mass was found to consist of the sigmoid colon which had been drawn up, and had become attached to the transverse colon near the splenic flexure. When the sigmoid colon was freed from the transverse colon, an obstructive lesion was found in mid-sigmoid and, approximately three inches proximal to the malignancy, the descending colon was ruptured for eight inches. The edges of the ruptured portion of the bowel were adherent to the peritoneum lining the anterior abdominal wall and were freed from it with some difficulty. In order to deliver the ruptured bowel, a second transverse incision was made on the left side of the abdomen and the diseased portion of the bowel including the carcinoma and the entire torn portion of the colon were brought through this new incision and removed, together with a large portion of the meso-colon. A Rankin clamp was used to close both distal and proximal openings of the double-barrelled colostomy and a cecostomy was done, using a mushroom catheter which was brought out through the right-sided incision.

As anticipated, the patient's immediate post-operative condition was quite poor, some of his shock apparently being due to the cumulative effect of curare as he responded quickly to prostigmin-methylsulfate when it was given intravenously about one hour post-operatively. He was put on SRD-penicillin, intramuscularly, terramycin intravenously, and given blood, glucose and potassium intravenously. The following day his urinary output was fair, the Levine tube was draining well and his general condition seemed good. The Rankin clamp was removed from the colostomy on the third post-operative day and he was removed from the oxygen tent and anti-biotics were reduced. There was, however, no drainage from the cecostomy tube, but a large amount of pus drained from both wounds. Four days post-operatively, he had a normal stool through the proximal colostomy opening and his condition gradually improved until nine days post-operatively, when he had a sudden severe pain in the chest with fainting spell and cyanosis. A diagnosis of pulmonary embolism was made, which was confirmed by x-ray the following day, the x-ray film being consistent with a pulmonary infarct. For this he was treated with anticoagulant therapy by the medical consultant, Dr. R. T. Peirce, Jr., and improved rapidly. The nasal tube was removed on the 10th post-operative day and, following this, except for purulent drainage from both wounds, he got along well. A spur clamp was applied to the double-barrel colostomy three weeks following surgery, but this did not stay in place and he was instructed as to the care of his colostomy and discharged as improved five weeks after operation.

The pathological report showed carcinoma of the sigmoid colon with partial intestinal obstruction and rupture of the descending colon and metastasis to the mesenteric nodes and a diphtheritic membrane in the ruptured portion.

Three months after operation, digital examination of the distal colostomy opening revealed what appeared to be a recurrent carcinoma. At this time all thought of closure of the colostomy was dropped, though the spur clamp was reapplied, hoping that the continuity of the bowel might be re-established, but this failed. The patient returned six months following surgery, at which time he was seen with a greatly enlarged liver and jaundice. This was felt to be due to a metastatic lesion of the liver, but within a few weeks the jaundice had cleared and the patient began to feel well, so it was apparent that he had had homologous serum hepatitis from his

XUM

transfusion. The patient has been followed regularly by his family physician, Dr. R. B. Brown, and by me, having been seen last September 25, 1953, at which time his general condition remained good, but there was still a mass palpable on examination through the distal loop of the colostomy. A biopsy of this was obtained which proved to be adenocarcinoma.

The interesting features of this case seem to be the fact that, as far as can be determined, this man came into the hospital in severe shock following rupture of the bowel due to distention resulting from an obstructive carcinoma of the sigmoid together with kinking of the bowel proximal to the tumor. The free edges of the bowel apparently became adherent to the peritonum of the anterior abdominal wall and formed a canal through which fecal material could pass, enabling him to have bowel movements, and it was not until the fecal contents leaked through the edges of this channel into the general peritoneal cavity did generalized peritonitis develop. His post-operative course was complicated by respiratory failure due to cumulative effect of curare, infection of both operative wounds, a pulmonary infarct and homologous serum jaundice, all of which he survived, but, unfortunately, due to metastasis, his outlook is hopeless.

New Illness Resembling German Measles.

An outbreak of a new, mild illness, characterized by a skin eruption, is described in the June 5th Journal of the American Medical Association.

The disease, prevalent in and around Boston in 1951, was found to be both infectious and contagious, according to three physicians who made a study of 18 cases and reported 2,450 cases seen by other physicians. Although the condition had some of the features of German measles, careful study showed that it is probably an entirely new type of infection. The 18 patients studied by the physicians ranged in age from four months to 26 years. The majority of patients had a fever of about 102F which lasted one to two days and was accompanied by a sore throat, a generalized aching of muscles, and chills.

All the children, but only one of the three adults afflicted, exhibited varying degrees of skin eruption. The rash usually was most evident over the face and upper chest, appearing in most cases after onset of the other symptoms and within one or two days after the fever had subsided. Some of the patients suffered mucous membrane lesions and enlargement of their neck glands. None, however, appeared severely ill. Multiple cases appeared in two families.

A questionnaire regarding the new disease was sent to physicians in Massachusetts. The 123 physicians who replied stated they had seen about 2,450 such cases between May and September, 1951. According to the replies, the epidemic eruptive disease affected primarily children 10 years of age or younger, and was characterized by fever and a skin rash that appeared either during or after fever had subsided. Fever and the rash lasted at least 24 hours in most cases, and in many cases lesions of the throat were apparent. Multiple cases were not uncommon in a single family.

"There appears to be little doubt that the outbreak of illness described here represents an infectious and communicable disease entity," the doctors stated. "Study of a group of 18 patients with the disease as well as results from a questionnaire circulated among practicing physicians who encountered the illness indicated that the exanthem [eruptive disease] represented a definite clinical entity that did not readily conform with the more commonly known exanthems.

"It may be concluded that the disease we have encountered in most of the patients, although it may share some features of certain common exanthems, probably is an infection sui generis [in a class by itself.]"

The report was prepared by Dr. Franklin A. Neva, Pittsburgh, and Drs. Roy F. Feemster and Ilse J. Gorbach, Boston.

XUM

THE TREATMENT OF CHRONIC BRONCHITIS*

W. LEROY DUNN, M.D.,
Washington, D. C.

Although chronic bronchitis is probably the most common chronic pulmonary disease, nearly all cases are secondary to some other disease. Primary chronic bronchitis which may occur in individuals who inhale irritants over long periods of times, accounts for a very small part of the total incidence of this disease. Fortunately for both physician and patient, the diagnosis—primary chronic bronchitis—is made less often with each passing year. This diagnosis is not justified until a careful study of the patient has failed to reveal some underlying cause. Unless the physician bears this in mind, he may fail to recognize and treat the primary disease. This may lead to disaster.

Chronic bronchitis occurs commonly with pulmonary emphysema, in long standing congestive heart failure, chronic parnasal sinus infection, pulmonary tuberculosis, bronchiectasis, lung abscess, neoplasms, allergies, and bronchial obstruction from whatever cause. Many other disease may be accompanied by chronic bronchitis.[1]

It is obvious, therefore, that if chronic bronchitis is to be cured, or better, prevented, early diagnosis of the primary disease is essential and prompt and adequate treatment is necessary. No amount of treatment of the bronchitis will avail if the emphysema or congestive heart failure present is ignored. Many cases of tuberculosis and of carcinoma of the lung have been mistakenly treated for chronic bronchitis. When the correct diagnosis was made, the primary disease had progressed beyond hope of arrest or cure.

While chronic bronchitis may occur at any age it is more commonly encountered in older patients. Since in the general population the number of persons past sixty years of age is steadily increasing, the problem of diagnosing and treating chronic bronchitis becomes increasingly more important.[2]

A brief review of the anatomy of the normal bronchus and its alterations in chronic bronchitis may prove helpful in understanding the difficulties involved in treating this condition.

*Read before the Virginia Chapter, American College of Chest Physicians, at the meeting of the Virginia Academy of General Practice, Richmond, Virginia, May 6, 1953.

The larger bronchi are lined by tall ciliated columnar epithelial cells which rest on a narrow basement membrane. Numerous goblet and mucus-secreting cells are interspersed among the columnar cells. The sub-epithelial layer is composed largely of connective tissue containing nerve fibers, lymphatics, and capillaries. Outside this is a layer composed of smooth muscle which contracts during expiration. An adventitial layer covers the muscle peripherally. Mucous glands are found extending through the first three layers to the adventitia. The action of the cilia of the columnar cells moves mucus and foreign material from the bronchus toward the trachea.[3]

Alteration of the normal anatomy is striking in chronic bronchitis. The basement membrane, the sub-epithelial layer and the muscle coat are thickened. The tall columnar cells are shorter and many have lost their cilia. In severe cases some areas have lost the epithelial covering and are ulcerated. The lumen of the bronchus is smaller. It is obvious that where such a condition exists cure in the sense of a return to a normal state is not possible. It does not follow, however, that nothing can be done for the patient.[4]

The first step in treating such a condition is to seek the primary cause and eliminate it if possible. If tuberculosis, bronchiectasis, a tumor, or congestive heart failure is found, treat that disease promptly and vigorously, for half-way measures have no place in the treatment of pulmonary disease.

In treating the bronchitis the patient's general condition should be studied. Minor deviations from the normal should be remedied where possible. General health should be maintained at the highest level. Particular attention should be given to diet, rest, recreation and general hygiene. Diet should be simple, wholesome, and sufficient to maintain a satisfactory weight. A life of moderation in all things, including adequate rest and sufficient but suitable recreation, should be followed. In cold weather clothing should be adequate to prevent chilling. The home and office should be kept at an even temperature and comfortably warm, but not overheated. Tonics, hormones and vitamins may be helpful in

XUM

selected cases where there is definite indication for their use.

The patient's physical environment is important. Symptoms will be fewer in a warm, mild, dry climate where the air is free of smoke, dust and irritating fumes. It is usually not desirable to uproot patients with chronic bronchitis to move them to a more favorable climate. Most patients are happier and fare better if they can continue as nearly a normal routine as their situation will permit. If the place of work is cold and drafty, or if the air is dusty or contains irritants, correction of these conditions will benefit the patient and may enable him to continue at his old job.

The use of tobacco always poses a problem. It is probable that there is always some aggravation of cough as a result of smoking. Yet the physician hesitates to prohibit smoking unless he is satisfied that in a given case tobacco is definitely harmful. The decision must depend on a consideration of the patient as well as his bronchitis.

Many drugs have been prescribed in the treatment of chronic bronchitis but none has proved specific. The expectorants have been used for many years and have afforded a measure of symptomatic relief. Their greatest field of usefulness is in patients with severe cough whose sputum is thick and tenacious. The most popular expectorants are potassium iodide, ammonium chloride and ipecac. The use of one or more of these drugs, with or without small amounts of codeine is often helpful. In selected cases the addition of postural drainage may be beneficial since it permits more adequate emptying of the bronchi with less effort and less cough.

The so-called bronchodilator drugs may be of considerable help in alleviating some of the symptoms of chronic bronchitis. Epinephrine, ephedrine sulphate, atropine and aminophylline have had a wider use than other members of this group. Except in unusual circumstances orally administered preparations will accomplish as much as those given by inhalation or injection.[5,6]

Many preparations of the antihistaminic drugs have been used in the treatment of chronic bronchitis. Except in an occasional case the results have been disappointing.

The drug therapy discussed thus far is designed to relieve the patient's symptoms. The sulfa drugs and the antibiotics have a direct effect on the infecting organisms. These drugs are most effective in the subacute phase of the disease or during an exacerbation of the chronic process. Since there is no known treatment that will eradicate the infection in chronic bronchitis, and since it is not desirable to give either sulfa or the antibiotics over long periods, care and good judgment are needed in deciding when one of these drugs is indicated and how long it should be continued.

In many cases of chronic bronchitis the sulfa drugs give good results and are adequate for the purpose. Sulfadiazine has had a wider use than any other sulfa preparation. Recently combinations of sulfonamides such as sulfamethazine, sulfadiazine and sulfamerazine in equal parts have been prepared in half-gram tablets. The dosage is the same whether a single sulfonamide or a combination is used. The total dosage must be suited to the need of the patient. In most cases an initial dose of two to four grams, followed by three to five grams daily in divided doses will suffice.

Of the antibiotics penicillin has proved the most useful in the treatment of chronic bronchitis. It may be administered either orally or by injection. The addition of sulfonamides to the oral tablet is thought by some to give better results than oral penicillin alone. Aureomycin, terramycin and chloramphenicol are just as effective as penicillin or sulfa in controlling most bronchial infections. Many patients complain of gastrointestinal symptoms, chiefly loss of appetite, gas, and soft stools, after the administration of aureomycin, terramycin or chloramphenicol. These symptoms may be attributable to the suppressing effect of these drugs on the normal intestinal flora, chiefly the colon group. Fungi present in the intestinal tract and ordinarily inhibited by the presence of colon bacilli, grow rapidly and give rise to the gastrointestinal disturbances mentioned.[5]

Streptomycin or dihydrostreptomycin may be used in the treatment of chronic bronchitis, if intolerance to other antibiotics develops or if the organisms have become resistant to the other antibiotics. Where the tubercle bacillus is the etiologic agent, streptomycin or dihydrostreptomycin should be used.

Of the more recently studied antibiotics erythromycin appears to be a valuable addition to therapy. While clinical experience is not yet sufficient for a final appraisal of its effects, it seems to inhibit most

XUM

penicillin susceptible organisms, particularly gram positive cocci. Reports indicate little if any inhibiting effect on colon bacilli. Theoretically few gastrointestinal symptoms are expected following its use.

The optimum dosage has not been established for any one of these antibiotics. It is well known that in the presence of small doses of any antibiotic, the infecting organism may develop resistance to the drug. For this reason and until optimal dosages are established, certain minimum daily doses are advisable: penicillin, three hundred thousand units by injection, or eight hundred thousand orally; aureomycin, terramycin and chloramphenicol, one gram; erythromycin, eight hundred milligrams. Orally administered antibictics are given in divided doses.

A word of caution is needed regarding the use of combinations of antibiotics simultaneously. On the basis of many recent studies it seems certain that under some circumstances penicillin, streptomycin and dihydrostreptomycin are antagonistic to aureomycin, terramycin and chloramphenicol. Studies have shown that in specific instances combined penicillin-aureomycin therapy was less effective in controlling infection than either antibiotic given alone. Except in unusual situations it is wise to use one antibictic, and only one at a time.[7,8,9,10]

Where therapeutic response has been disappointing, culture of the sputum to determine the nature of the organisms present may supply helpful information. A laboratory test of the sensitivity of these organisms to the sulfa drugs and different antibiotics will aid in selecting the most effective agent.

For a time inhalation therapy using penicillin or streptomycin in the treatment of chronic bronchitis and other pulmonary diseases seemed promising. During the past two years, however, the use of inhalation therapy has declined sharply. Many clinicians have concluded that their results are as good, if not better, when penicillin is given orally or by injection.

Recently efforts have been made to liquefy heavy bronchial exudates by the inhalation of solutions of proteolytic enzymes. The value of this method and its possible harmful effcts have not been thoroughly investigated, so it cannot be recommended for use at the present time. At some future date these enzymes may prove a valuable addition to therapy in chronic pulmonary diseases.

In summary, most cases of chronic bronchitis are secondary to some other disease, either pulmonary or non-pulmonary. Hence successful treatment depends on finding the primary cause and treating it adequately. The pathologic changes that occur in long standing chronic bronchitis are irreversible, so that restoration to normal is not to be expected. However, the patient's general condition can be improved and his symptoms considerably lessened by appropriate treatment. The development of the sulfa drugs and the antibiotics has proved a boon to those afflicted with chronic bronchitis. However, the wise and considered use of these agents is important if the patient is to receive the greatest possible benefit.

BIBLIOGRAPHY

1. Myers, J. Arthur: The Chest and the Heart, 1st ed., Chas. Thomas, Springfield, Ill., 1948, p. 297.
2. U. S. Census Report, 1950.
3. Miller, W. S.: The Lung, Chas. Thomas, Springfield, Ill., 1947.
4. Sodeman, William A.: Pathologic Physiology: Mechanisms of Disease, 1st ed., W. B. Saunders, Philadelphia, 1950, p. 225-235.
5. Conn, Howard F.: Current Therapy, 1952, Saunders, W. B., Philadelphia, p. 85.
6. Sollman, Torald: A Manual of Pharmacology, 7th ed., Saunders, W. B., Philadelphia, p. 777.
7. Jawetz, E., Gunnison, J. B., Bruff, J. B., and Coleman, V. R.: Studies on Antibiotic Synergysm and Antagonism, Journal of Bacteriology, July, 1952.
8. Dowling, H. F., Lepper, M. H., and Jackson, G. G.: When Should Antibiotics Be Used In Combination, J.A.M.A., **151**:813, 1953.
9. Jawetz, E., and Gunnison, J. B.: An Experimental Basis of Combined Antibiotic Action, J.A.M.A., **150**: 693, 1952.
10. Brown, Curtland, Jr.; Propp, Simon; Guest, C. Maynard; Beebe, Richard T., and Early, Lawrence: Fatal Fungus Infections Complicating Antibiotic Therapy, J.A.M.A., **152**:206, 1953.

1150 Connecticut Avenue.

XUM

THE INDICATIONS AND TECHNIQUE FOR INTERMARGINAL EYELID ADHESIONS (TASORRHAPHY)*

E. W. PERKINS, M.D.,
Richmond, Virginia

With the present large number of accident cases there will be times when many physicians will be called on to repair injuries of the face and eyelids which will require some understanding of the value and technique of intermarginal lid adhesions.

The late Doctors Webb Weeks and John Wheeler of New York stressed the importance and taught the simple technique of intermarginal lid adhesions, but the subject either has been omitted or inadequately treated in the standard text-books on ophthalmic or plastic surgery. Not until the recent book on Ophthalmic Surgery by Sidney Fox has adequate space been given the subject.

Tarsorrhaphy, which is the technical term for intermarginal lid adhesions, is the surgical occlusion of a portion of the palpebral fissure by approximation of the eyelid margins (Fig. 1). One central tarsorrhaphy may suffice for minor procedures. However, depending on the individual case, two tarsorrhaphies are usually created; one at the junction of the inner and middle thirds of the lids and the other at the junction of the middle and outer thirds. After healing and some stretching, the lids should separate enough to allow the patient to use the opening between the adhesions for seeing.

INDICATIONS

Tarsorrhaphy becomes necessary whenever the surgical repair of injuries to the lids produces a vertical tension or pull on the tissues. Healing of the lids in the presence of a vertical tension on the tissues will produce contracture deformities. A contracture of the upper lid gives an inverted V-shaped deformity and contracture of the lower lid gives a pulling down and turning out of the lid. Such deformities, even when slight, are most disfiguring and every effort should be made to avoid them.

In addition to preventing contracture deformities, intermarginal lid adhesions are a fundamental procedure in plastic surgery. The skin of the lids is loose and normally is thrown into folds when the eyes are open. The adhesions keep the lids in the

Fig. 1(Perkins). A case of neuro-paralytic keratitis with two tarsorrhaphies and a central opening between the adhesions for seeing

*From the Department of Ophthalmology, Medical College of Virginia, and the Veterans Administration Hospital, Richmond, Va. The drawings are by Don James, U. S. Veterans Administration Hospital, Richmond.

Read before the regular meeting of the Richmond Academy of Medicine, along with the presentation of a movie film demonstrating the technique of the Weeks' tarsorrhaphy, on November 10, 1953.

closed position. It is necessary the lids be immobilized and splinted during skin grafting in order to prevent shrinkage and contracture of the graft while it is healing. The surgeon should have no hesitancy about using lid adhesions. It is much better to create an unnecessary tarsorrhaphy than to have a graft heal improperly.

Tarsorrhaphy is part of the treatment for neuroparalytic keratitis and other trophic disturbances of the cornea. Also, the neuro-surgeon frequently will use intermarginal lid adhesions until there is return of motor function following the surgical operation which divides the trigeminal nerve in the treatment for neuralgias of the nerve.

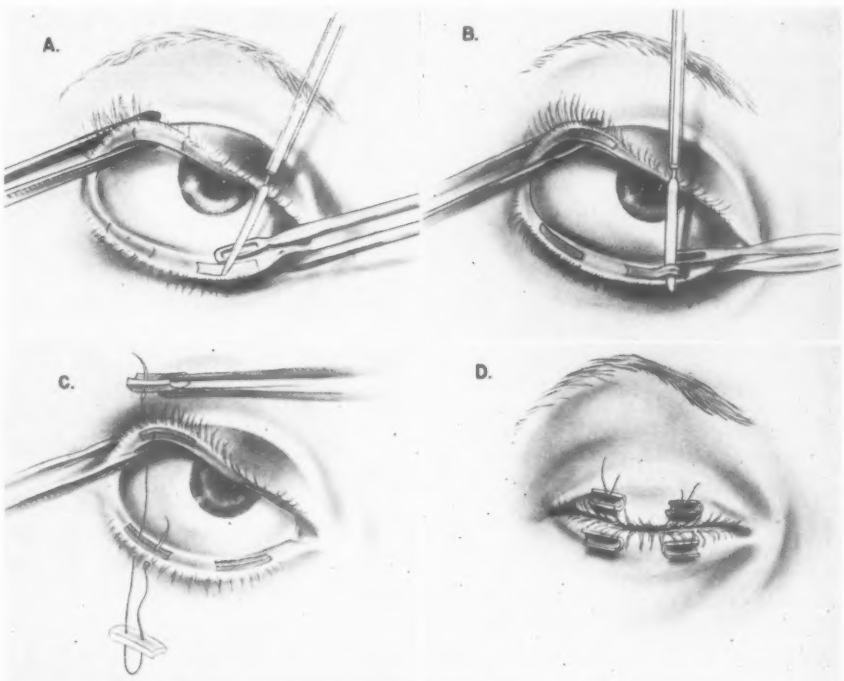

Fig. 2 (Perkins). Weeks' tarsorrhapy. A. Vertical cuts are made on the lid margins to mark the sites and horizontal incisions are made between the cuts to outline the tissue to be removed. B. The tissue is excised. C. Double-armed sutures are inserted. D. The sutures are tied snugly.

PROCEDURE

The Weeks' operation for tarsorrhaphy is simple but requires some care. The following Weeks' technique, with slight variations, is essentially the same as that described by Fox:[1] The lids are held together in their normal position and vertical cuts, 5 mm. apart, are made on the lid margins to mark the sites of the tarsorrhaphies. The cuts in the upper and lower lid margins are made exactly opposite each other. This is necessary to prevent misplacement and distortion of the lids. The lid is then securely held with a firm forceps and with the margin everted two horizontal incisions, 1 mm. apart, are made between the vertical cuts to outline the amount of muco-cutaneous intermarginal tissue to be excised. A thin rim of epithelium is left on the conjunctival side of the lid margin and on the skin side the horizontal incision is just posterior to the eyelashes. The rectangular areas thus outlined are excised by passing a cataract knife on the flat and with a sawing motion the tissue is removed. In this way a clean rectangular raw area is created on the lid margin. The raw areas are then split into skin muscle and tarsoconjunctiva to a depth of 2 mm. The two needles of a double-armed 0000 black silk suture are passed through a small rubber peg and are introduced approximately 3 mm. below the margin of the lower eyelid. The needles are passed through the mid portion of the raw rectangular area of the lower

and upper eyelids to emerge through the skin 3 mm. above the lashes of the upper lid. The needles again are passed through a rubber peg and the suture is firmly tied, bringing the raw surfaces into firm apposition. The same suture procedure is followed for each tarsorrhaphy.

Bacitracin ointment and a light dressing are applied. Dressings are done every two days. The tarsorrhaphy sutures should be left in 12 to 14 days to assure complete healing, for otherwise the lid adhesions may separate. The suture is easily removed. To remove, it is cut over the lower peg and pulled out by the knot over the upper peg.

The adhesions may be left for an indefinite time. In the treatment for neuro-paralytic keratitis it is necessary the adhesions be left in place for at least 6 months. When used as adjuncts to grafting procedures and when used to prevent contracture deformities during lid repair they should be left in place for at least 3 months.

When ready to be released, a small amount of 2% procaine is injected into each area of union which is then cut with a small scissors. The raw surfaces are re-epithelialized rather quickly and are usually completely healed in three or four days.

COMPLICATIONS

The chief complication resulting from improperly performing the tarsorrhaphy is that of the adhesions not holding and the lids soon pulling apart. If the lashes are disturbed they may be either permanently lost or grow inward and cause pain and injury by rubbing on the cornea. An adhesion made over the lacrimal punctum will block the drainage system of the eye. Removing too much tissue at the lid margin when performing the tarsorrhaphy can cause a permanent notch in the lid margin after the adhesion is severed.

SURGICAL FUNDAMENTALS

Along with emphasizing the importance of lid adhesions, it seems appropriate to mention briefly some of the fundamentals involved in the surgical repair of the eyelids. Injuries to the lids are common after automobile accidents, and it is well to remember that the future appearance of the patient often depends upon the judgment and skill of the physician who first has charge of the patient. When repairing the lids it is important that no tissue be excised which can possibly be saved. Care should be taken to identify the tissues in order that similar tissues will be sutured together. The skin on the lids is very thin and loose and, consequently, has a tendency to roll on itself when cut, thus requiring special care when suturing the raw edges. When closing the skin, interrupted sutures should be used. Through and through lid lacerations are best closed in layers. The tarso-conjunctival layer is closed separately and the skin-muscle layer over it is sutured as an independent layer.

Large needles and sutures, such as used in repairing lacerations of the body, should not be used on the eyelids. Most emergency and operating rooms have sterile eye sutures, which are readily available in glass ampules. A 0000 black silk eye suture with attached cutting needles is preferred. The needle can be held with a small Kelly forceps should an eye needle holder not be available. Accurate approximation of the wound edges before swelling or edema distorts their relationship may save months of later hospitalization with repeated plastic operations. If the lid margins have been cut, much care must be taken in bringing them into exact apposition. The lid margins must be kept against the globe and not allowed to become either everted or inverted. Any surgical repair must be done with the knowledge that in order to obtain a satisfactory cosmetic result it is necessary to take the time to place intermarginal adhesions whenever there is a vertical tension on the wound, or, otherwise, a cicatricial contracture will lead to a disfiguring deformity.

SUMMARY

Intermarginal eyelid adhesions are discussed and the technique of the Weeks' tarsorrhaphy is described. While emphasizing the importance of lid adhesions to prevent contracture deformities, attention is called to some of the surgical fundamentals involved in repair of the eyelids.

REFERENCES

1. Fox, Sidney A.: Ophthalmic Plastic Su-gery, Grune & Stratton, 1952, pg. 68.

509 Medical Arts Building.

XUM

INTESTINAL OBSTRUCTION OF THE BOWEL IN THE AGED AND THE YOUNG—

Report of Two Interesting Cases*

M. J. W. WHITE, M.D.,
Luray, Virginia

The first patient, Dr. F. W. G., age 97½, a retired physician and druggist, was seen at approximately 11:30 P. M. on May 28, 1953, with a strangulated right inguinal hernia. His past history of this hernia could not be obtained but he had not used any particular device to keep it reduced, and had apparently reduced the hernia many times previously without assistance.

On this particular afternoon, after he had been working in the yard of his home, he was unable to reduce the hernia as he had apparently done previously.

When he was first seen he was given 50 mgm. of Demerol by hypodermic and 30 mgm. phenobarbital by mouth. The hernia at this time was tense and approximately the size of an orange. In the following twenty minutes it lost some of its tenseness and, although it still was not reduceable, it was thought that the bowel would return to the peritoneal cavity. However, the next morning it appeared larger and, after consultation, operative intervention was deemed necessary.

The patient at this time was vomiting, with much pain, he had Cheyne-Stokes respirations, and a temperature of 99 degrees. His white blood cell count was 6,400, and an urinalysis was essentially negative.

Operation began at 10:00 A. M. and, under local 2% procain HC1 anesthesia, a right hernia incision was made. When the peritoneum was reached it appeared dark and, upon opening it, old blood with bloody peritoneal fluid and a hemorrhagic loop of small intestines was seen. After approximately 15 minutes, peristalsis was noticed at the edge of the hemorrhagic area of the strangulated loop and, due to the age and condition of the patient, it was deemed advisable to return it to the peritoneal cavity and repair the hernia as quickly as possible. During the repair a white looking tissue, appearing to be fascia, was used to help with the closure. When a suture was placed in this piece of tissue, it bled profusely and upon closer examination it was found to be the femoral vein. This had to be ligated. Tissue in the aged is not like that in young adults.

The hernia was then repaired in the routine manner, using black silk for the fascia, chromic-O for the underlying tissue, and clips for the skin.

Considering all, the patient stood this procedure fairly well, but his condition was considered poor the following day when 5% alcohol in glucose solution seemed to benefit him most. Caffein and sodium benzoate was given on several occasions as a respiratory stimulant. On the second day following operation, he was able to sit up for short periods, and on the 16th day he walked out of the hospital as good as before the operation.

The second case is that of an eight year old girl, V.A.S. She was seen on the evening of May 18, 1953. This frail, undernourished little girl, appearing younger than her eight years, was examined on the back seat of her father's car. She was on her knees crying with abdominal pain. She felt hot and appeared acutely ill, so she was sent to the local hospital for further examination.

When seen there, she was nauseated, vomited and had crampy colicky pain over the whole abdomen. Her temperature was 99.5, with a white blood cell count of 20,000 consisting of 96% polymorphonucleas, 2% lymphocytes, and 2% eosinophils. The conclusion was reached that she had an acute surgical abdomen and preparations were begun for immediate operation.

At operation, a right rectus incision was made and when the peritoneum was opened, free straw colored fluid was encountered. The omentum appeared thickened, was plastered over the intestines, and was removed with some difficulty. A large well-filled loop of small intestine, which was twisted upon itself, was delivered through the incision and found to contain a mass of ascaris. A small incision was made in the intestine and, with a Babcock clamp, a large quantity of fully developed round worms were delivered—one hundred and twelve in all. Many

*Read before The Medical Society of Northern Virginia, December 15, 1953.

XUM

more could be felt in the other loops of intestines that could not be milked up to this opening and were left. The appendix was then brought into view and appeared edematous and enlarged. It was removed in the usual manner. The abdomen was then closed in layers without drains after instilling one gram of streptomycin solution.

She made an uneventful recovery, passing fifteen adult ascaris by rectum before leaving the hospital eight days after the operation.

New Books

The following books have been received recently at the Tompkins-McCaw Library of the Medical College of Virginia and are available to our readers under usual library rules:

Ashley and Love—Fluid and electrolyte therapy, 1954.
Bauer—Seventy-five years of medical progress, 1878-1953.
Bickers—Menorrhalgia: menstrual distress, 1954.
Cantarow and Scheoartz—Biochemistry, 1954.
Ciba Clinical Symposia, Vol. 5, 1953.
d' Abreu—Practice of thoracic surgery, 1953.
Davies and Gale, editors—Adaptation in micro-organisms, 1953.
DePalma, editor—Clinical orthopeadics, Vol. 3, 1954.
Doshay—Parkinsonism and its treatment, 1954.
Feigl—Spot tests, organic and inorganic, Vol. 1, 1954.
Ficarra, editor—Emergency surgery, 1953.
Fleming—William H. Welch and the rise of modern medicine, 1954.
Florey—Lectures on general pathology, 1954.
Galdston—The meaning of social medicine, 1954.
Gray—The microtomist's formulary and guide, 1954.
Harrison—Ocular therapeutics, 2nd edition, 1953.
Harrow and Magur—Textbook of biochemistry, 6th edition, 1954.
Henderson—Only the happy memories, 1954.
Hoffman—Biochemistry of clinical medicine, 1954.
Jenkins—Breaking patterns of defeat, 1954.
Josiah Macy—Metabolic interrelations, 1954.
Josiah Macy—Problems of aging, 1954.
Josiah Macy—Problems of infancy and childhood, 1954.
Kaplan and Robinson—Congenital heart disease, 1954.
Lev—Autopsy diagnosis of malformed hearts, 1953.
Liebolt—Illustrated reviews of fracture treatment, 1954.
Loewenthal, editor—The eczemas, 1954.
Mackenna and Cohen—Aids to dermatology, 4th edition, 1954.
Mackie, et al—Manual of tropical medicine, 1954.
Main—Physiology, 2nd edition, 1953.
Major hospital atlas, 1954.
Markowitz—Textbook of experimental surgery, 3rd edition, 1954.
Mayo Clinic diet manual, 2nd edition, 1954.
Meaker—A doctor talks to women, 1954.
Neurath and Bailey—The proteins, Vol. 1, Pt. A and B, Vol. 2, Pt. 1, 1953-1954.
Oginsky and Umbreit—Bacterial physiology, 1954.
Palumbo—Low back pain and sciatica, 1954.
Pascher, editor—Dermatologic formulary, 1953.
Penfield and Jasper—Epilepsy and the functional anatomy of the human brain, 1954.
Pratt—Cardiovascular surgery, 1954.
Reiman—Pneumonias, 1954.
Robinson—The psychiatric aide, his part in patient care, 1954.
Rothman—Physiology and biochemistry of the skin, 1954.
Roueche—Eleven blue men and other narratives of medical direction, 1954.
Smith—Alcoholism, 1953.
Stieglitz—Geriatric medicine, 1954.
Surrey—Name reactions in organic chemistry, 1954.
Symposium on protein metabolism, 1954.
Symposium of the Society for General Microbiology—Adaptations for Infantile Paralysis, Vol. 14, Pt. 1, 1953.
Transactions of the American Neurological Association, 1953.
Transactions of the Association of Life Insurance Medical Directors of America, 1954.
Wiener—Rh-Hr blood types, 1954.
X-ray, 1953-1954.
Yearbook of endocrinology, 1953-1954.
Zdansky—Roentgen diagnosis of heart and great vessels, 1953.
Johns—Chimborazo Hospital and J. B. McCaw, surgeon-in-chief, 1954. (very interesting pamphlet)

XUM

RECURRENT HEMORRHAGE SECONDARY TO ILEAL DIVERTICULUM*

Paxton Powers, M.D.,
and
Kemp Plummer, M.D.,
From the Gastroenterology Section of the Medical Service,
McGuire Veterans Administration Hospital,
Richmond, Virginia.

This report is presented with the idea of pointing out certain features of recurrent small bowel bleeding which may be utilized as diagnostic aids, in the presence of negative x-ray findings and a varied, indistinct symptomatology.

In spite of present day improvements in diagnostic endoscopy and radiology, the site of bleeding cannot be determined in about 15%[1] of all cases of gastro-intestinal hemorrhage. Localization of the site of hemorrhage is made all the more difficult by the absence of any characteristic pattern of symptoms. This is especially true of lesions in the small bowel distal to the duodenum.

Case Report

A 25 year old white male mechanic was admitted to the McGuire Veterans Administration Hospital, Richmond, Virginia, for the third time on August 15, 1953, because of recurrence of gastro-intestinal hemorrhage. Gastro-intestinal symptoms began shortly after his entrance into military service. These were characterized by epigastric pain induced by eating. There was no radiation of pain or nocturnal exacerbation. In the same year he had several attacks of fainting and was hospitalized once because of tarry stools. The resulting anemia was corrected by two blood transfusions. He was asymptomatic until March, 1953, at which time he was admitted to McGuire Veterans Administration Hospital, Richmond, Virginia, because of melena which began the day prior to admission. For two weeks preceding this episode of melena he had had dull aching pain in the lower abdomen. The pain seemed to be relieved by passage of flatus or bowel movements. Aside from a weight loss from 145 to 123 pounds, occurring over a two year period, he had no other systemic manifestations.

On physical examination his blood pressure was found to be 96/56 and the oral mucous membranes appeared moderately pale. There was localized tenderness to the right of the umbilicus and there was a well healed right lower quadrant scar resulting from an appendectomy in 1943. Both dark and bright blood were found on digital examination of the rectum. There were no other pertinent physical signs. Hemoglobin was 10.9 grams/100 c.c., sedimentation rate 10 mm. per hour, hematocrit 36%, WBC 10,000, with a normal differential count. Studies with reference to blood coagulation showed repeatedly normal results. A barium meal, small bowel series and barium enema were also reported as negative.

Bleeding stopped spontaneously after several days of hospitalization. He was treated empirically on an ulcer regimen. The hemoglobin returned to normal without transfusions. A tentative diagnosis of duodenal ulcer was made at that time on the basis of exclusion of other demonstrable lesions.

Following his discharge and an asymptomatic period of about three months, he had sudden onset of epigastric pain followed in several days by another episode of dark red rectal bleeding associated with pronounced weakness. Again he was admitted to McGuire Veterans Administration Hospital at which time he showed a moderate anemia, and dark red feces was found on rectal examination. The physical findings were otherwise unchanged. Gastric analysis, a repeat barium meal, gastroscopy, proctoscopy and barium enema provided no information as to the cause or site of the hemorrhage.

He left the hospital in remission, which continued for about 6 weeks. In August, of 1953, he became nauseated, and vomited approximately a pint of partially digested food and bile stained liquid without gross blood. He was admitted again and presented essentially the same picture as before including a moderate degree of anemia. That day he passed three bloody stools. Supportive therapy consisted of 1000 c.c. of whole blood and an ulcer regi-

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*Read before the Richmond Academy of Medicine October 27, 1953.

XUM

men. The patient improved until one week later when he began to pass tarry stools and there was a rather sudden drop in hemoglobin to 6.4 grams necessitating several more transfusions. A barium meal and a small bowel series again revealed no lesions.

An exploratory laparotomy was performed. A firm, round, well circumscribed mass two cms. in diameter was found about four feet proximal to the ileocecal valve. It was attached to the ileum in close proximity of the mesenteric insertion and adjacent to the mesenteric plane. The peritoneal lining of the mass was smooth and glistening. A segment of the small intestine measuring 12 cms., including the mass, was resected.

Examination of the surgical specimen (Fig. 1) revealed a segment of ileum with a dimple-like orifice in the mucosa approximately in the middle. A probe could be passed through the orifice into a narrow lumen which could be traced to the center of the spherical mass described above.

Microscopic examination of the specimen revealed a true diverticulum of the ileum (Fig. 2) provided with a well developed muscular coat. The lining of the pit of the diverticulum was composed of typical gastric mucosa (Fig. 3). The lining was ulcerated around the neck of the diverticulum. There was considerable fibrosis of the muscularis beneath the ulceration. There was also some focal lymphocytic infiltration suggesting a relatively indolent inflammatory reaction. A few fairly large blood vessels in the base of the ulcer showed degenerative changes in the wall and organized thrombi in the lumen (Fig. 4). There was also some focal extravasation of blood suggesting recent bleeding. The pathologic diagnosis was: Diverticulum of the ileum con-

Fig. 1.

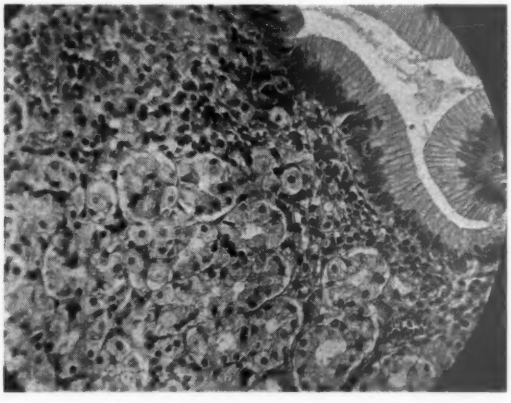

Fig. 3.

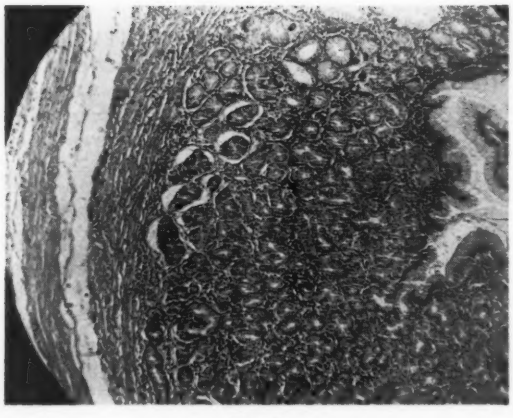

Fig. 2.

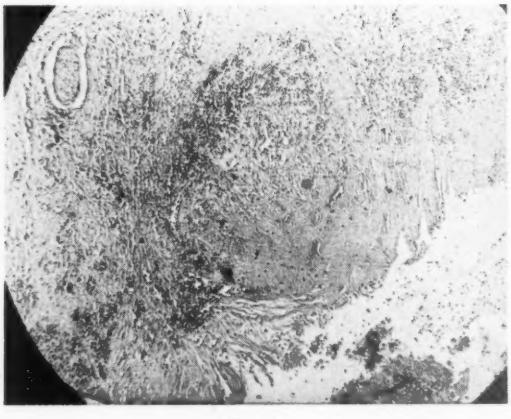

Fig. 4.

taining heterotopic gastric mucosa with a bleeding peptic ulcer.

COMMENT

Our case report illustrates the following features:

1. Silent (or asymptomatic) intestinal bleeding associated with indistinct clinical pattern.
2. Alternation of grossly bloody and tarry stools, the former or both frequently being present at some time during each episode.
3. Equivocal or negative x-ray findings that exclude peptic ulceration, intraluminal tumors, diverticula, intussuception or enteritis.
4. Absence of clinical, roentgen or endoscopic evidence of gastroduodenal or colonic disease.
5. The tendency toward spontaneous remission and recurrence often without premonitory symptoms.
6. The absence of hematemesis, particularly in the presence of vomiting.

The diversity of symptoms and signs attributable to Meckel's diverticulum have been well documented. The subjective complaints follow no consistent pattern[2], and may as well be disregarded. The same appears to be true of a non-Meckel's type of diverticulum[3]. Howevĕr, if the added feature of repeated hemorrhage of obscure origin is consistent with the clinical points mentioned above, serious consideration should be given to the diagnosis of diverticulum, especially since it occurs in 0.2 to 0.5% of all individuals[2] and not infrequently is the site of ulceration with hemorrhage[4].

By means of a careful clinical, roentgenologic and endoscopic study in such cases of severe and recurrent obscure gastrointestinal hemorrhage, the foregoing features direct attention to the mesenteric small bowel, and exploratory laparotomy becomes obligatory.

SUMMARY

A case of repeated hemorrhage from a diverticulum of the ileum is presented. It exemplifies generally the clinical symptomatology in bleeding of small bowel origin. Certain features are emphasized which tend to implicate such a location.

REFERENCES

1. Harrison, T. R.: Principles of Internal Medicine, First Edition, The Blakiston Company, New York, 1950, p. 200.
2. Bockus, H. L.: Gastroenterology, First Edition, W. B. Saunders Company, Philadelphia and London, 1944, Vol. **2**, p. 119.
3. Dixon, C. F., and Wangh, J. M.: Non-Meckelian Diverticula of Jejunum and Ileum, Ann. Surg., **118**: 377-393, September, 1943.
4. Van Ravenswaay, A. C., and Winn, G. W.: Jejunal Diverticula—Consideration of Clinical Symptomatology and Case Report, Am. J. Digest. Dis., **10**: 108-111, March, 1943.

XUM

INCIDENCE OF GOITRE IN SOUTHWEST VIRGINIA

J. T. PHILLIPS, JR., M.D.,
Norton, Virginia

In order to ascertain a more accurate idea of the incidence of goitre in this area, a study was undertaken from routine admissions from St. Mary's Hospital and Norton General Hospital from a period beginning September, 1951, through March, 1953, making a combined total of 10,472 charts reviewed. These were consecutive admissions as obtained from the record room files.

In reviewing these charts the records were thoroughly searched for any mention of goitre, whether it be from the standpoint of a diagnosis made, or whether it was from mention in the physical examination or the history, and not recorded in the diagnosis. An attempt was also made to correlate the physical findings and the diagnosis with the laboratory work. In four instances there was insufficient data to indicate what type of goitre was present. This study included both male and female, white and colored, although the colored admissions were by far in the minority here because of the low incidence of colored people in this section of Virginia. The type of work-up as recorded on the chart has to be taken into consideration in compiling these figures because some physicians were more meticulous about recording the findings of the thyroid gland and the classification of the goitre found. Nevertheless, we felt that this number of cases from two hospitals over an 18 month period would give us an indication of the incidence of goitre and of the predominant type of goitre.

The total number of goitres admitted in this period of time was 55, which is 0.5 per cent of the total hospital admissions . Pennington,[1] in 1942, reported a 10 year survey of goitres admitted to two general hospitals in Lexington, Kentucky. There were 99,314 admissions to the hospitals, 1,153 of these cases being admitted for thyroid disease, not including hypothyroidism or those admitted for basal metabolic rates. This per cent of goitre admissions to total hospital admissions is 1.1 per cent. In this study he states that Central Kentucky is ordinarily not considered in the endemic goitre region. Hayne[2] found goitres in 3.8 per cent of 17,600 people he examined through South Carolina. This, however, was not computed on the basis of patients admitted to hospitals. In 1939, Mahorner and Barrow[3] reported on 52,863 patients admitted in one year to Charity Hospital in New Orleans, 248 of whom had goitre, being a ratio of 1 to 213 or 0.46 per cent of the total hospital admissions, which is essentially the same figure that is computed for this area in Southwest Virginia on the basis of the present study. Lehman and Shearburn,[4] reporting on 87,661 admissions to the University of Virginia Hospital over a period of 12 years, found 401 surgical goitre patients, which is a percentage of 0.45 per cent of total hospital admissions. Mahorner reports from a study done by other men in 1923, that less than 0.1 per cent of men in the southern states examined for a draft in World War I showed goitre, whereas, in the same draft examinations from 1.5 to 3 per cent of the men from the Northwest and Great Lakes regions were found to have goitre.

From the standpoint of admitting diagnosis, there were 27 patients with the main diagnosis being goitre and 28 patients being admitted where this diagnosis was of secondary importance.

The classification used in determining the type of goitre in these cases was as follows:

(A) DIFFUSE
1. Toxic
2. Non-toxic

(B) NODULAR
1. Toxic
2. Non-toxic

Of the diffuse goitres there were 13 cases, and of the nodular goitres there were 39 cases, or a ratio of 1 to 3. The total number of toxic goitres is 16 or 0.15 per cent of the total hospital admissions, or 29 per cent of the total goitre admissions. Davis,[5] in an analytical survey of the goitre management from the University of Nebraska Hospital over a period of years from 1935 to 1944, reports on 551 goitre patients, of which 68.6 per cent had a diagnosis of thyroid toxicosis. The number of non-toxic goitres admitted to our hospitals was 36, that is, 0.34 per cent of the total hospital admissions, or 65.4 per cent of the total goitre admissions, as compared to 28.9 per cent of non-toxic goitre admissions as reported by Davis' survey. The ratio of toxic to non-

toxic goitre is 4 to 9. Hence we have a predominance of nodular non-toxic goitres in this area of Southwest Virginia.

No attempt was made to tabulate the type of treatment which these patients had either surgically or medically. Patients reported as previously having had thyroidectomies totaled 15.

There were 3 malignancies reported, which was 0.03 per cent of the total admissions to the hospital, or 5.4 per cent of the total goitre admissions. As compared to Davis' study, he found 14 patients or 2.5 per cent of goitre admissions that had carcinoma of the thyroid gland.

Pemberton and Haines[6] state that, among patients operated upon for goitre, carcinoma is found in about one per cent of all goitres, whereas, it is 2.5 to 3 per cent of all nodular goitres. Foss and Cooper,[7] in 1000 consecutive cases of goitre, found carcinoma in 24, an incidence of 2.4 per cent. Lahey Clinic[8] finds 10 per cent malignancy in single adenomas. There was one case of Hashimoto's struma.

COMMENT

The hospitals from which this study is taken are general hospitals, drawing from a large surrounding area. Although this is a relatively small number of patients as compared to many studies reported, it does bring out some interesting information, namely, that the percentage of toxic to non-toxic goitres admitted in Southwest Virginia hospitals was the reverse of those admitted in other areas, suggesting sectional differences in the type of goitre found.

REFERENCES

1. Pennington, W. H.: Goitre in Central Kentucky, Southern Surgeon, **11**: 490, July, 1952.
2, 3, 4. Mahorner, H.: Goitre in the Southern States, Surgery, **16**: 764, November, 1944.
5. Davis, H. H.: Analytical Survey of Goitre Management, University of Nebraska Hospital, 1935 to 1944, Nebraska State Medical Journal, **31**: 355, September, 1946.
6. Christopher, Textbook of Surgery, 4th edition.
7. Foss, H. L., and Cooper, A. F.: Recent Trends in the Treatment of Goitre, Pennsylvania Medical Journal, **54**: 430, May, 1951.
8. Surgical Practice of the Lahey Clinic, page 71, 1951.

The Doctor and His Community

Does your community have medical representation at meetings of groups interested in health and welfare? Doctors must help to solve the local problems of the indigent, the aged, and many others. Strict medical care is no longer enough. Free clinics and charity patients are not enough. Some time must be allotted to citizenship.

Doctors must assume community repsonsibilities on an every day, part-of-the-group basis. The daily and weekly influence of a doctor upon health policies is of the greatest value to a community (such influence cannot be purchased; when you let Joe do it, he does it Joe's way). The medical profession has an obligation to furnish leadership in health matters. Doctors must again become leaders instead of being led.

Lacking time for citizenship
the chance for a solution of problems may be taken from us.

Refusing these responsibilities,
we have no right to criticize foreign and exotic policies of health and welfare groups.

—Public Relations Bulletin, West Virginia State Medical Association.

XUM

DR. WILLIAM BAYNHAM, OF VIRGINIA
A Biographic Portrait

L. BENJAMIN SHEPPARD, M.D.,
Richmond, Virginia

William Baynham was born December 7, 1749, in Caroline County, Virginia. His father was Dr. John Baynham, who had long practiced in that community and who was a local magistrate. It was under his father that William Baynham began the study of medicine.[1]

At an early age, young Baynham was then "apprenticed" to Dr. Thomas Walker, of Castle Hill, in Albemarle County, regarded as "one of the most eminent men of his day." After spending five "laborious" years with Dr. Walker, Baynham, now twenty years of age, went to London to continue his medical studies. He took courses in medicine at St. Thomas', in London, and also with the Hunters, instead of going to the University of Edinburgh, where a considerable number of young American physicians of that time had received their training. He entered St. Thomas's in 1769. There, Baynham had as professor Mr. Joseph Else, with whom he worked until 1772, devoting much of his time to the study of anatomy.

Upon completion of his course under Mr. Else, Baynham took a position at Cambridge University as "professor in anatomy", assisting Professor Collington, head of that department. At the same time, he was associated with Mr. Slater, a prominent surgeon of Margate, as partner in his practice, which seems to have been both extensive and lucrative. However, Mr. Else had other plans for his former student and persuaded Baynham to come to London to work with him in the "Museum". Here, he taught anatomy, did some dissecting, and prepared specimens for the Museum, later left to him by Mr. Else in his will. He later sold the Museum for 800 pounds to a Mr. Cline and then practiced as a surgeon in London for several years.

In 1785, William Baynham returned to America. On June 7, 1781, he had become a member of the Company of Surgeons of London, which was equivalent to securing the degree of M.D. In Essex County, Virginia, he now settled as a practitioner of medicine and surgery. His reputation came to draw patients from large cities and he was even sometimes called to other states for surgical cases. He had a national reputation at the time of his death, December 8, 1814.[2]

As a surgeon, Dr. Baynham "particularly signalized himself by several operations for stone, cataract, and extra-uterine conception."[3] A full account of his operations is given in Volume 4 of the *Philadelphia Journal of Medicine and Science.*

Dr. Baynham was eminent both as an anatomist and as a surgeon. As an ophthalmologist, his reputation rests upon his "numerous operations for cataract."[4,5] A letter from "a gentleman of high medical reputation, both in England and in America" states that Baynham was "second to Physick only" in surgery. The writer adds, "Dr. Physick and Mr. Baynham are the only persons whom I know in America, that have really improved the surgical profession."[6]

There are two definite reasons for Dr. William Baynham's not having become a well-known American physician: first, he spent almost all his life, from 1785 on to his death, in the country, in a rather obscure locality; in the second place, he left no writings of any consequence that would compare with the famous 3000-page manuscript of Dr. John Peter Mettauer.

REFERENCES

1. Blanton: Medicine in the Eighteenth Century, p. 79.
2. Thacher: American Medical Biography, I: 170.
3. Philadelphia Juornal of Medicine and Science, IV: 193.
4. Thacher: Med. Biog., I: 171.
5. Philadelphia Journal of Medicine and Science, IV: 193.
6. *Ibid.*, page 198.

PUBLIC HEALTH

Mack I. Shanholtz, M.D.
State Health Commissioner of Virginia

Public Health Aspects of Civil Defense

Major attacks upon the United States by an enemy possessing weapons of modern warfare could produce millions of casualties, making necessary the provision of both medical care and public health services on a scale unprecedented in the history of the world. Already much planning and preparation have gone into the organization of civil defense health services, but much more has yet to be done.

Space does not permit a detailed analysis of many problems involved in providing medical care, but those problems are inexorably intertwined with the public health problems. Basic to an understanding of the health aspects of civil defense is a knowledge of the nature of the threat and the requisites for an adequate defense.

The weapons which must be considered in preparing for health services include biological, chemical, radiological and atomic agents. From a public health viewpoint all can be classified as equally serious. With the advent of the H-Bomb, certain fundamental policies in civil defense medical service must be changed. While the percentage of various casualty types will change little, much greater numbers of casualties can be expected, and a large number of these will be due to the tremendous "fall-out" of radioactive particles, which, as has been proved, can cover several hundred miles. In addition, we must expect greatly increased destruction over large areas, and, since many of our hospitals and professional buildings are located in the heart of target areas, we must expect to lose much of our health facilities and personnel in event of attack. By the same token, buildings selected for emergency hospitals, first aid stations, and even mass care centers will have to be re-evaluated, and in most cases, other buildings selected which will offer greater safety and have less chance of being totally destroyed.

It has been more evident daily that target areas will have to depend upon support areas, as well as those which have been prepared for refugee or evacuation areas. Since we know a M.L.D. of radiation of 300 to 500r could occur over a distance of several hundred miles, we can no longer depend upon a few trained radiological monitoring teams to find and pinpoint radioactive areas, but must of necessity organize and train sufficient teams to cover the entire state in a manner similar to the ground observer posts. We must also give serious consideration to the immediate dispersal, on warning, of medical personnel.

Federal Civil Defense Administration, with representatives in each large warning center, now advocates, with better plans for warning the populace, that each target area prepare an adequate dispersal plan. The physical geography of the target areas in Virginia makes the preparation of such a plan a formidable project. Virginia is studying such plans, indeed, the Northern Virginia area, working with the District of Columbia and parts of Maryland, are well advanced in how they would go about evacuating that area. Should war become imminent, or be actually declared, the prompt dispersal of the aged, sick and children to mass care centers is almost a "must". With such a tremendously increased welfare problem, the public health program will proportionately increase, especially with regard to milk, water, general sanitation, garbage and sewage disposal, and the control of communicable and venereal disease.

Biological warfare agents include living organisms, toxins, biological products and chemical plant growth regulators, which may be used to produce death or casualties in man, animals or plants. Chemical agents include toxic chemicals, incendiaries, and smokes. Not the least of the chemical agents is nerve gas, and these developments make defense preparations against biological and chemical agents imperative.

Considering man as a target, enormous numbers of casualties result from attack by biological or chemical agents. The correct use of biological agents by saboteurs could cause large numbers of casualties and disruption of local population groups. Saboteur use of chemical agents presents more technical difficulties than biological agents. We can feel sure that an enemy will strike at personnel more intensely than ever before, for such an attack would save the means of production, and leave less men to care for. Also, since B. W. and C. W. agents lend themselves

XUM

so readily to sabotage, we can expect an enemy, who, short of all-out war would do anything to achieve his ends, to be prepared to use these agents.

With the foregoing in mind, certain civil measures are essential. Sufficient warning must be given, at least an hour or more, to allow civil protective measures to be taken. Where such warning is sufficient an active dispersal or evacuation plan should be placed in effect immediately, and preparations to short of all-out war would do anything to achieve care for both casualties and evacuees begun. Attack with biological or chemical agents must be detected promptly, radiological monitors alerted, and the public informed of the attack. Proper protective devices, such as gas masks and shelters should be made available. Every individual must know what is expected of him in any type of attack, and should be instructed in the various weapons which may be used, to help them react rationally. Health personnel must be prepared to deal with any emergency situation, plans for utilization of health facilities must exist, and certain medical supplies must be available.

To prepare, medically, for an enemy attack an area should adopt the Boy Scout slogan, "Be Prepared", and the local medical director should arrange classes for the populace in First Aid, Home Nursing, Nurses Aides and general defense orientation. Specific plans for evacuation or dispersal under several types of attack are necessary, the organization of First Aid Stations, Casualty Stations, Emergency Hospitals, expansion of permanent hospitals, mortuary services, mass care centers with medical care assigned, should all be planned and organized well in advance of attack. Special training should be given for radiological monitoring.

Among the civil defense problems with which public health officials will be concerned are the provision of safe water; sewage collection and disposal; garbage and refuse storage, collection and disposal; food sanitation; control of insects and rodents; household sanitation; detection of identification of illnesses; laboratory services; and prophylactic services.

Provision should be made for the emergency purification of water by chlorination and other methods. The public should be advised of measures which can be used during extreme emergencies to provide itself with small amounts of safe drinking water. Another principal problem will be how to prevent contamination of water and food supplies with sewage from damaged sewers. This contamination may be prevented by such measures as pumping, temporary diversion, and improvised repair. In general, the repair of water systems would take priority over the repair of sewage systems.

To prevent the development of insect breeding and other nuisances, community refuse handling agencies and health departments must plan to maintain certain minimum services: collection of dead animals and other refuse; designation of places for emergency storage (such as vacant lots or bombed-out buildings), with provision for the control of insects, rodents, and odors; and activation of emergency landfill disposal sites to supplement or replace normal disposal facilities.

The civil defense problem in food sanitation is to adapt the normal services of the health department and of the food industry to the dangers which will exist in an emergency. A particularly important task will be the supervision of food preparation at mass-feeding centers. Other tasks include evaluating possible contamination of food supplies by sewage, broken glass, biological, chemical, and radiological agents, and other extraordinary contaminants; implementing arrangements for decontaminating, segregating, or destroying such supplies, and arranging for the orderly opening and closing of restaurants and other public eating establishments in accordance with civil defense emergency feeding needs.

Early detection and identification of illnesses which may result from biological or chemical attacks are extremely important in minimizing the effects of these attacks. Mobile epidemiological teams may be needed to assist local health departments in carrying out epidemic intelligence activities during an emergency. Health departments, particularly in urban areas, should bring their epidemic intelligence services to a high degree of proficiency. Special training should be given to laboratory workers in the use of instruments and techniques for dealing with the chemical agents and exotic organisms that may be used.

The psychological effects of modern warfare must not be overlooked. The weapons used in modern warfare tend to cause much speculation among the public and to engender unreasoning fear in many people. If civilians are to react rationally, they must

XUM

have adequate knowledge about the capabilities and limitations of these weapons. If the health departments carry on an educational program of this type, their efforts would be well rewarded in the event of an enemy attack.

The purposes of civil defense health services are (a) to minimize the extent of severity of, and provide treatment for, civilian casualties caused by enemy action and (b) to maintain the health of, and provide emergency non-casualty medical service for, evacuees and other individuals deprived of their usual medical care resources. It is imperative, however, that the normal patient-doctor relationship be reestablished at the earliest possible moment after a disaster so that the current structure for providing health services be affected as little as possible.

With these newer concepts of the medical service in civil defense, it becomes an essential part of our planning for all medical and allied professional people to fully understand these problems, and be prepared to care for these unfortunates who are either injured or lose their homes. This can best be done by the state societies and their components making these problems a major study in their future meetings.

MONTHLY REPORT OF THE BUREAU OF COMMUNICABLE DISEASE CONTROL.

	June 1954	June 1953	Jan.-June 1954	Jan.-June 1953
Brucellosis	2	6	17	26
Diphtheria	1	3	25	51
Hepatitis	181	141	2597	1237
Measles	2891	542	22052	4179
Meningococcal Infections	6	7	67	129
Poliomyelitis	12	17	36	37
Rocky Mt. Spotted Fever	5	14	12	22
Streptococcal Infections (Including Scarlet Fever)	283	313	3040	3448
Tularemia	3	0	20	15
Typhoid Fever	7	2	28	19
Rabies in Animals	17	28	225	263

WOMAN'S AUXILIARY TO THE MEDICAL SOCIETY OF VIRGINIA

President ..... MRS. K. W. HOWARD, Portsmouth
President-Elect ..... MRS. MAYNARD EMLAW, Richmond
Recording Secretary ..... MRS. LEE S. LIGGAN, Irvington
Corresponding Secretary—
MRS. LEMUEL E. MAYO, Portsmouth
Treasurer ..... MRS. WILLIAM C. BARR, Richmond
Publication Chairman ..... MRS. WM. S. GRIZZARD, Petersburg

American Medical Association.

The Auxiliary was represented by the following members at the national convention held in San Francisco, June 21-25: Mrs. Kalford W. Howard, State President, from Portsmouth; Mrs. Richard M. Reynolds from Norfolk; Mrs. Meyer Vitsky of Richmond; and Mrs. Charles H. Henderson of Norton, president-elect of the newly formed Wise County Auxiliary.

Mrs. Howard gave the report from Virginia and served as a member of the Convention Courtesy Resolution Committee.

Mrs. Reynolds is now serving as National Chairman of Public Relations and participated in the Public Relations Panel on June 21st. As chairman, she will have four regional chairmen serving under her. She is a past president of the Norfolk County Auxiliary and the State Auxiliary.

The delegates were very faithful in attending all the meetings, luncheons, teas, etc., and we anticipate a more complete report at a later date.

RUTH L. GRIZZARD (MRS. WM. S.)
Chairman of Publication

Danville-Pittsylvania.

This Auxiliary held the spring business luncheon meeting on April 22nd at Memorial Hospital.

Mrs. J. R. Eggleston, chairman of the Philanthropy Committee, reported that an application had been received for the scholarship to cover six months

graduate study in Pediatrics at Children's Hospital, Washington. Upon completion of this course, the nurse is to return to Memorial Hospital. The Auxiliary granted funds to be placed to aid four first year student nurses in training at the Hospital.

Mrs. Cary Whitehead, Chatham, introduced Mrs. Sally Thomas of the Virginia League of Planned Parenthood who presented a film and distributed pamphlets on Planned Parenthood.

Mrs. K. W. Howard, president of the State Auxiliary, was a guest at this meeting and told of the Public Relations work being done by the Auxiliary.

The following officers were elected: President, Mrs. G. F. Thompson, Chatham, president-elect, Mrs. H. R. Bourne, Danville; vice-president, Mrs. W. C. Fitzgerald, Danville; recording secretary, Mrs. Jesse Clore, Danville; corresponding secretary, Mrs. James Beaton, Gretna; and treasurer, Mrs. C. G. Gaddy, Danville.

SALLY W. PRITCHETT (MRS. DRAKE)
Publicity Chairman

Norfolk.

The newly elected officers of this Auxiliary were installed by Mrs. R. M. Reynolds on May 25th, at the home of the retiring president, Mrs. J. R. St. George. They are: President, Mrs. John Rosenthal; president-elect, Mrs. John Sellers; vice-presidents, Mrs. Robert Thrasher, Mrs. Aubrey Shelton, Mrs. Charles Davis; recording secretary; Mrs. Frank DeLaura; assistant recording secretary, Mrs. Arnold Rawson; corresponding secretary, Mrs. Gordon Harrell; assistant corresponding secretary, Mrs. Andrew Hargroves; treasurer, Mrs. Franklin Turner; assistant treasurer, Mrs. William Pope; historian, Mrs. James Price; and parliamentarian, Mrs. R. M. Reynolds.

Mrs. Rosenthal announced her committee chairman, some of whom are following: Public Relations, Mrs. John Foster; Program, Mrs. Robert Thrasher; Social, Mrs. A. L. Shelton; Health Education, Mrs. M. I. Krischer; and Future Nurses Club, Mrs. W. J. Kucewicz.

Following the meeting, Mrs. St. George was a charming hostess at a tea for the auxiliary.

HELEN V. KRISCHER (MRS. M. I.)
Publicity Chairman

Richmond.

The Auxiliary to the Richmond Academy of Medicine had its annual Benefit Tea on May 5th at "Belona Arsenal", historic James River home of Mr. and Mrs. Merle Luck, Sr. The entire proceeds of $1,130.55 were given to Sheltering Arms Hospital.

Newly elected officers of this Auxiliary are: President, Mrs. James R. Grinels; president-elect, Mrs. George H. Snead; vice-president, Mrs. Carl W. Meador; treasurer, Mrs. George K. Brooks; corresponding secretary, Mrs. J. David Markham; assistant corresponding secretary, Mrs. Levi W. Hulley, Jr.; recording secretary, Mrs. William C. Barr; historian, Mrs. Gilman R. Tyler; and parliamentarian, Mrs. Maynard R. Emlaw.

Standing Committee chairman are: Bulletin, Mrs. Frederick L. Finch; Editorial, Mrs. George H. Snead; Legislative, Mrs. Willard M. Fitch; Membership, Mrs. Custis L. Coleman; Program, Mrs. Carl W. Meador; Public Relations, Mrs. Wm. P. Morrissette; Revisions, Mrs. Edward S. Ray; and Today's Health, Mrs. Wyndham B. Blanton, Jr.

Special Comimttee Chairmen are: Civil Defense, Mrs. Randolph H. Hoge; Devotional, Mrs. Hawes Campbell; Doctors' Day, Mrs. A. A. Houser, Jr.; Drug Collection, Mrs. F. E. Oglesby; Flowers, Mrs. Wm. R. Morton; Luncheon, Mrs. R. F. Simms and Mrs. Wm. A. Dashiell; Mental Health, Mrs. George S. Fultz, Jr.; Nurse Recruitment, Mrs. W. H. Buffey; Personal Relations, Mrs. R. N. Snead; Research and Romance, Mrs. G. G. Ritchie; Telephone, Mrs. W .F. Cavedo and Mrs. W. M. Deyerle; Volunteer Work, Mrs. G. B. Carter; Ways and Means, Mrs. Wm. F. Grigg, Jr.; and Year Book, Mrs. R. N. Baylor.

XUM

MEDICO-LEGAL NOTES

Medico-Legal Problems in Unattended Deliveries*

Obstetrical deliveries unattended by a physician or trained midwife can present a variety of medico-legal problems, especially when the deaths of these newborn infants occur. The question of the means and manner of death must be resolved. Infanticide is to be ruled out.

In the investigation of deaths of unattended newborn infants the testimony of the mother often plays an important role. The reliability of this testimony must be evaluated. Aside from any willful concealment or misstatement of fact, there is the question of the psychic state during delivery. Is the mother oriented as to time and place? In attended deliveries the wide use of amnesic and hypnotic drugs certainly clouds the maternal mental picture. There is no evidence however, that, in the absence of overt psychosis, there is any diminution in the mental acuity of the mother, except in some cases of eclampsia.

It is doubtful that unrecognized delivery of an infant weighing 3 Kg. or more can occur in a mentally competent individual. In multipara with markedly relaxed soft parts and strong uterine contractions, labor can be extremely rapid and effortless, and it is conceivable that in an inattentive individual an unrecognized delivery might occur.

Was the infant stillborn or born alive? This is a question for which the law requires an exact answer. The 28th week of gestation is considered the lower limit of viability. This is readily ascertained by the length, 35 cm., and the weight, 1000 grams (2.2 lbs.). Reasonably definite opinion can be rendered in two types of cases: 1) the child which plainly died in utero—the macerated fetus—and 2) the infant which obviously breathed and lived—with lungs more or less fully aerated. The third class, the child which has struggled for existence, presents the most common forensic problem. It is important to differentiate between the stillborn infant which made its struggle before delivery and the live-born infant which failed to survive despite its efforts to breathe. Similar gross changes are seen in both cases.

The lungs will fill the pleural sacs in at least three-fourths of the cases. The common belief that they are unexpanded in the stillborn is a fallacy. Fetal respiratory movements begin in utero even as early as the third month of gestation. The hydrostatic or floating test may be unreliable as an indication of separate existence. Careful histologic study of the lung is the most reliable aid in solving this problem and even its interpretation can prove quite difficult on occasion.

Having established that live birth occurred, the question of violence must be explored. Wounds of sharp instruments, strangulation, suffocation, and multiple severe injuries are similar to those in other cases. The question of head injury requires careful study as the head is that part most susceptible to birth trauma. Cephalic hematoma cannot be considered as evidence of external trauma. Subdural hematoma and linear skull fractures are seen in apparently normal deliveries. These events are more prone to occur if the infant is premature or if the labor is rapid and precipitous. If fractures are depressed and comminuted and are associated with brain damage, blunt injury must be considered. Often it is claimed that precipitous delivery results in the infant falling to the floor and receiving a fatal head injury. Whether or not this plea is accepted will depend upon a careful investigation into the facts of the case. Points worthy of attention are the parity of the mother, the nature of the fatal injury, the distance of the alleged fall, the quality of the surface struck, and the presence or absence of any evidence pointing to a willfully inflicted blow.

Did the infant bleed to death? A pale body with dry tissues and low blood volume will cause this question to be raised. 100 cc of blood, rapidly lost, may prove fatal. Possible sources of fatal hemorrhage are laceration of the liver, willfully inflicted wounds by sharp instruments, and the umbilical cord. Can the cord become torn during delivery to produce a fatal hemorrhage? The tensile strength of the normal cord was found by Stowe to be from 8 to 15 pounds. This would seem to preclude any spontaneous tear unless there were some pre-existing defect. If such an accident should occur it is unlikely that fatal hemorrahge would ensue as hemo-

*Contributed by John L. Thornton, M.D., Medical Examiner for the City of Richmond.

XUM

stasis is relatively rapid in a jagged lacerated wound. Everyday examples of this are seen in deliveries by other mammals. However if the cord is *cut* and not tied or tied loosely, the danger of fatal hemorrhage is quite real. Willful neglect of proper ligature of the cord has been reported as a means of infanticide.

Congenital anomalies, Rh incompatibility, and infections are other causes of neonatal death to be excluded.

All information available in cases of unattended deliveries with associated infant death must be carefully considered in order to bring to light cases of infanticide and, even more important, to relieve the innocent of any undue suspicion.

BOOK ANNOUNCEMENTS

Fifty Years of Medicine. By LORD HORDER, G.C.V.O., M.D., F.R.C.P. Philosophical Library, Inc., New York. 1954. 70 pages. Price $2.50.

The Atom Story. Being the Story of the Atom and the Human Race. By J. G. FEIBERG, M.Sc. With illustrations by Lewis and a foreword by Frederick Soddy, F.R.S. Philosophical Library, New York. 1954. 243 pages. Price $4.75.

Peripheral Circulation in Man. By G. E. W. WOLSTENHOLME, O.B.E., M.A., M.B., B.Ch., and JESSIE S. FREEMAN, M.B., B.S., D.P.H. Assisted by Joan Etherington. Editor for the Ciba Foundation. A Ciba Foundation Symposium. Little, Brown and Company, Boston. 1954. xi-219 pages. With 72 illustrations. Price $6.00.

The Deaf and Their Problems. A Study in Special Education. By KENNETH W. HODGSON, M.A. (Cantab.) With a Preface by Sir Richard Paget, Bart. Philosophical Library, New York. 1954. xx-364 pages. Price $6.00.

Beyond the Germ Theory. The Roles of Deprivation and Stress in Health and Disease. IAGO GALDSTON, M.D., Editor. A New York Academy of Medicine Book. Health Education Council, New York and Minneapolis. 1954. viii-182 pages. Price $4.00.

You and Your Health. By EDWIN P. JORDAN, M.D., Charlottesville, Virginia, Executive Director, American Association of Medical Clinics. G. P. Putnam's Sons, New York. 1954. xiv-296 pages. Cloth. Price $3.95.

Dr. Jordan has presented the laity with a modern version of the home medical handbooks our great grandparents used. Actually, the book is an answer to the many questions that readers have posed him in his syndicated newspaper column on health.

Divided into several sections, each concerning a general system like cardiology, the book explains some elemental physiology and pathology. At the end of each section there are answers to pertinent questions that Dr. Jordan has received. The reader is sometimes advised on simple corrective measures, and he is always referred to a physician if these fail or if danger signs are present. Our Charlottesville author dispels many erroneous notions, and he clarifies others. His section on cancer is appealing because he offers encouragement to those who seek advice early. Although occasional errors of fact occur, they are rare and not serious. Furthermore, if the book be widely read, it is believed that doctors will not be troubled so much by inconsequential questions, leaving them more time to devote to healing the sick.

ROBERT A. ABERNATHY, JR., M.D.

Salt and the Heart. By EDWARD T. YORKE, M.D., Linden, N. J., Attending Cardiologist, Alexian Brothers Hospital; Associate Cardiologist, St. Elizabeth Hospital; etc. Drapkin Books, Linden, N. J. 1954. xi-83 pages. Cloth. Price $3.45.

In this book for laymen, Dr. Yorke draws forceful attention to the role of salt in diseases related to the heart. He explains in fairly simple language why salt must be restricted in some patients, and he shows how simple dietary measures may keep patients comfortable for long periods of time. However, the most commendable feature of this work is the large section dealing in detail with the amounts of sodium found in individual foods. He outlines an attractive 200 milligram sodium basic diet; foods may be exchanged according to a sodium point system, much like the popular diabetic exchange system. Physicians can regulate sodium intake with a fair degree of confidence that the diets will be appetizing and followed. Regardless of the occasional admittedly controversial subjects, this book should be a boon to patients and doctors alike.

ROBERT A. ABERNATHY, JR., M.D.

XUM

MENTAL HEALTH

Joseph E. Barrett, M.D.
Commissioner, Department Mental Hygiene and Hospitals

Admission to Mental Hospitals*

About three years ago an article appeared in this Journal describing the commitment procedures and the method of voluntary admission to mental hospitals and State colonies. It may not be a-miss to recapitulate the major points at this time, limiting this article to admission to State mental hospitals. The mental hospitals are for mentally ill, inebriates and drug addiction patients; persons with mental deficiency and/or suffering from epilepsy are to be sent to the appropriate colony.

Voluntary Admission

This method of admission is for persons seeking release from mental distress or "nervousness", just as persons seeking release from physical pain and discomfort go to a general hospital. Still, there are some criteria which must be met:

1. The patient must be considered suitable for voluntary admission by the superintendent of the State Hospital or one of his staff physicians on his authorization. The local physician is not privileged to decide whether a patient may be admitted voluntarily. Basically the conditions are that the patient desire hospitalization, so that he may cooperate with the physicians in his treatment; and that he understand that he is coming to a State supported institution which is for patients with mental disturbances. The paper must be signed without duress in the presence of the admitting doctor.

2. These patients are not kept under obligatory confinement; they can be released at any time with the consent of the superintendent; they will not be held more than 10 days following the receipt by the superintendent of their written request to leave the hospital.

3. This type of admission is only for those who are mentally ill. The law (Sec. 37-113) specifically states ". . . any suitable person . . . in the early stages of being mentally ill . . .". This definition bars the admission of inebriates and drug addicts on a voluntary request.

4. The person applying for voluntary admission must be a legal resident of the State. This is also stated in the above mentioned Section (37-113) ". . . who is a legal resident of the State. . .". There is a Section (37-119) which states further, "No non-resident . . . person shall be admitted or detained in any hospital . . . except when there is a vacany. . .". With all the hospitals over-crowded, 25 to 30 percent over specified capacity, it is considered that the "no vacancy" sign hangs out.

5. A Voluntary patient ". . . shall be required to defray his expenses . . ." while in the hospital unless exempted from such payment by the State Hospital Board. (Sec. 37-116 & 37-117).

Temporary Admission, without Commitment

1. This type of admission is for persons who are not cognizant of the desirability of treatment for them in a mental hospital. But if in the opinion of *two physicians* they should be under observation and treatment in such a specialized hospital, they may be admitted on papers signed by these two physicians. Patients admitted in this manner may be released at any time within the 45 day limitation, if their condition is sufficiently improved. If they are so released within this observation period, there is no record in any court that they have been in a mental hospital, and there are no legal complications such as losing their civil rights.

2. The period of ". . . care and treatment. . ." is limited (Sec. 37-106) to a period ". . . not to exceed 45 days." However, (Sec. 37-109) if the person so admitted ". . . is found to be mentally-ill, epileptic or mentally-deficient within 45 days after he is admitted to the hospital or colony . . .", the superintendent shall notify the judge or trial justice of the county or city from which the person was received. If the judge or trial justice is satisfied that the patient should remain in the hospital, he signs an order completing the commitment, "Order of Commitment from Temporary Care and Treatment", Part I (c).

In this way the "regular commitment" is completed and the *sanity commission,* which is composed of *two physicians* and *one judge,* is completed, by the two physicians requesting the temporary admission and by the judge who orders the indefinite commitment. It is only after this commitment procedure

*Article prepared by E. Beamer Maxwell, M.D., Clinical Director Eastern State Hospital, Williamsburg, Virginia.

XUM

is completed that any record is placed on file in the courthouse.

3. It is stated in Part I (a) of the "Temporary Admission for 45 Days Without Commitment to the State Hospitals", that this type of admission is for a ". . . person who is a legal resident of Virginia . . .".

4. No inebriate or drug addict can be accepted by the hospital on this Temporary Admission as it is specifically so stated in Section 37-104.

5. The superintendent may refuse to admit a patient upon such certificate if in his judgment the reasons given are not sufficient, or if the mental condition of the patient is not of such nature as to make it necessary that he should receive hospital treatment. (Sec. 37-107) This will certainly happen very seldom, but it is of assistance to have adequate information concerning the immediate reason for hospitalization.

6. There are special forms for this type of admission which are printed on green paper. It must be accompanied by Part II, the "Interrogatories and History and Physician's Examination", which is a double white paper form to be completed by the physicians.

COMMITMENT FOR OBSERVATION

1. This type of admission is similar in many ways to the "Temporary Admission", except that the papers are signed by only *one physician* and by a *judge* of any circuit or corporation court, or any trial justice.

2. There is a time limit of 45 days that a person may be detained in the hospital under this commitment.

3. These papers also are limited to a person ". . . who is a legal resident of the State." (Sec. 37-99).

4. This type of commitment is not to be used for inebriates or drug addicts. (Sec. 37-99).

5. A person committed for observation may be placed on regular commitment as mentally-ill, epileptic or mentally-deficient by the judge or trial justice originally acting in the case. (Sec. 37-102). The judge is advised of the mental condition of the patient by the superintendent of the State hospital and one or more physicians of the hospital staff, and the judge then completes the form "Order of Commitment from Observation".

6. The "Commitment for Observation" is also printed on green paper and must be accompanied by Part II, Interrogatories.

REGULAR COMMITMENT

1. Regular commitment is without a time limit. The commission consists of a *judge* or trial justice, or special justice who has been appointed, and *two physicians.*

2. The forms required are kept by the clerks of the circuit and corporation courts of each county and city. (Sec. 37-67).

These forms are of different colors for the different types of commitments:

For the mentally-ill—pink
For inebriates—canary
For drug addicts—tan

Each of these must be accompanied by Part II, the Interrogatory and History and Physician's Examination.

It is important that the correct paper be used since many laws applying to mentally-ill persons are not applicable to those committed as inebriates or drug addicts. Of significance in this respect is the fact that inebriates and drug addicts do not lose their civil rights, although if they remain in the hospital 30 days or more, they lose their permit to drive a car.

Whatever type of admssion is used, the patient must be admitted to the hospital within thirty days of the decree, or the commitment becomes null and void. (Sec. 37-132.1).

It is most important that the correct name of the person being committed be given: In the case of women, it should be her own given name and not the first name of her husband. This is because whatever name appears on the order of commitment which is signed by the judge, is that person's official name in the hospital. This cannot be changed except by court decree, for any purpose. Incidents have occurred where patients or relatives gave nicknames or other than the true and correct name and the patient was so committed. Later when efforts were made to complete insurance forms, much difficulty was encountered by the family. It is also important that a sufficiently complete name be given for identification purposes, as many persons have similar or even, if given briefly, identical, names.

Many legal complications may develop from a carelessly completed form of commitment. The deprivation of a mentally-ill person of his liberty and civil rights is a serious situation, and the papers should be completed as conscientiously as any other legal document.

XUM

NOTES ON PULMONARY TUBERCULOSIS*

What Is A Reportable Case?

The Virginia State Health Department accepts as reportable *any* case *designated* by the attending physician as tuberculous, irrespective of criteria used or tests made to reach this conclusion. One might say, therefore, "to diagnose is to report"; and, carried one step further, "to *treat* as tuberculous, is to *diagnose* as tuberculous".

Exceptions to these rules, and therefore *not* reportable, are the "healed primary" tuberculous infections generally, with particular reference to calcific nodules in the lung or hila, thought to have been deposited as a result of an antecedent primary tuberculous infection. (These calcifications may or may not be associated with a known positive tuberculin reaction).

On the other hand, any primary tuberculous infection characterized by enlargement of mediastinal glands to an arbitrary point where the infection is considered by the attending physician to be "unhealed" (and therefore, *active*), *is* reportable, in and of itself, even in the absence of visible co-existent pulmonary lesions.

A positive tuberculin reaction alone, not known to have been recently acquired, is not reportable as a case.

However, a *proven recent* conversion from a negative to a positive tuberculin reaction, whether *or not* this finding is concurrently, or shortly thereafter becomes, augmented by visible x-ray findings characteristic of an unhealed primary infection should, in the opinion of the Virginia State Health Department, be reported as an "active primary tuberculous infection"; moreover, for practical purposes it should be regarded as potentially communicable (culture on gastric washings) until the lesion can qualify for reclassification as apparently inactive or "healed."

Pleurisy with effusion, where tubercle bacilli cannot be isolated and where no other etiology can be established, is often, and rightly *treated,* and *automatically* therefore, *diagnosed* as tuberculous; it is reportable.

Tuberculous pleurisy, particularly with effusion, is thought nearly always to be secondary to an underlying concurrent pulmonary lesion, whether visible or not on x-ray following withdrawal or absorption of fluid; therefore when reported, these cases which lack roentgenological evidence of pulmonary disease, had best perhaps be classified *arbitrarily* as "minimal, active pulmonary tuberculosis with pleurisy (and effusion)". It is sound medical practice to treat these patients first and foremost for the *pulmonary lesion;* this invariably extends the treatment period *long past* the disappearance of fluid and other symptoms.

It is suggested that healed pleurisy (thickened pleura) be not reported unless the patient gives a definite and comparatively *recent* history of tuberculosis for which he *took treatment,* or which was accompanied by a *positive sputum.* In the latter instances, the cases are reportable as "pulmonary tuberculosis, apparently inactive", provided clinical evaluation studies, subsequently performed, bear out this conclusion.

Clearly there can be no *absolute* criteria for the reporting of a case of tuberculosis until criteria used by attending physicians and clinics for the making of diagnoses have become standardized and universally applied. Currently these criteria vary widely —*too* widely. For example, diagnoses of tuberculosis on the basis of one x-ray alone, without supporting evidence, continue to be made. While this practice is not recommended (see March issue, Virginia Medical Monthly) whenever such diagnoses *are* made, the cases are reportable. As far as the Virginia State Health Department is concerned when a physician *thinks* a patient has tuberculosis, he *has* tuberculosis; health department personnel have been instructed to assume that "the physician is always right", "theirs' not to question *why*" a diagnosis is made. In this way only can the State Health Department keep faith with the profession and assure its members the complete cooperation which is theirs' to command.

Currently about 3.4% of reports received by the State Health Department on newly diagnosed cases of tuberculosis are submitted directly by private physicians (whether general practitioners or specialists).

Many, many specimens of sputum from patients cared for by private physicians are sent to the State Laboratory for examination. Some physicians understandably may have considered it to be superfluous to formally report to the health department

*Prepared by Virginia State Health Department.

XUM

a case whose sputum has been declared positive for acid fast bacilli—particularly if he is under the *correct* impression that State and Local Health Departments receive duplicate copies of these reports and enter the patient's name categorically upon their tuberculosis registers.

It is true that, from a practical standpoint, almost all diagnoses so entered are confirmed sooner or later locally, even if not reported by the physician directly, when confirmed. However, it is also an established fact that not *every* patient having sputum from which acid fast organisms can be recovered by direct examination, has tuberculosis. Actually therefore, it would be more *realistic* if diagnoses were made and case reported only after the local physician, in charge of the case, has had an opportunity to correlate the report of a sputum containing organisms of the appearance and with staining qualities "characteristic" of tubercle bacilli, with other facts in the case, the same as he is already being encouraged to do with respect to x-ray reports of shadows "characteristic" of tuberculosis.

If this suggestion ultimately proves to be practicable, as indeed it should, *all* cases would then be diagnosed locally, by the attending physician. The latter is the logical one to report, for generally he is the only one who has or *should* have all the information, upon which to base a diagnosis. The laboratory technician knows nothing but the sputum status; the roentgenologist more often than not, does not have collateral information necessary to render a diagnosis, nor does he pose as a clinician; even the specialist when asked to review the evidence and perhaps independently examine the patient, "in consultation", merely acts in an advisory capacity, offering an opinion which the physician in charge of the case is free to accept or reject. The fact that the attending physician usually and wisely accepts assistance from those prepared to bring their broad clinical experience to bear upon unusual or especially difficult diagnostic problems, does not alter the basic fact that it is still the attending physician whose responsibility it is to make the final decision; it's *his* patient.

Under these suggested circumstances, it would be natural for the attending physician to report the case *direct* to his local health department, rather than indirectly, through the State Health Department. The average attending physician already has established a close working relationship with his local health agency.

The *local* health department is the only one prepared to cooperate professionally and *promptly* with the physician in his management of the many problems medical and para-medical, which invariably follow in the wake of diagnosis, where the tuberculous lesion is classified as active (in need of treatment). Therefore, it is *logical* to notify the *local* health department *first;* in turn it will notify the State.

Most cases of tuberculosis, in the not too distant past, being very communicable by the time they were diagnosed, caused the disease to be looked upon as uniformly and heavily infectious. It is still properly classified, without qualification, as a communicable disease, and as such is reportable in all states.

A few states no longer require the reporting of other than active cases. The Virginia State Health Department however, along with many other states continues to regard as reportable all newly diagnosed cases *whether classified as active or not.* Obviously, this latter method of reporting provides a *more complete* picture for statistical evaluation and epidemiological analysis. To compensate Local Health Departments for the far greater number of cases subject to registry by this method the Virginia State Health Department does *not* urge as a public health measure the routine examination of contacts to other than active cases. In this way it is possible "to have our cake and eat it too!" i.e., a combination of unrestricted reporting, plus freedom to concentrate Public Health Nursing supervision where it is needed most. Allegedly more than half of the newly diagnosed cases of tuberculosis, first singled out for clinical evaluation by x-ray screening of community-wide populations, are apparently inactive, (and therefore presumably noncommunicable) at time of diagnosis.

In order to make possible a serious effort upon the part of communities, states and nation, during the next 10 years or so to *eradicate* tuberculosis as a serious public health problem, it goes without saying that programs must be intelligently organized, existing facilities fully exploited, available funds wisely expended. This can be accomplished only through a knowledge of the total scope of the tuberculosis problem, *including where the individual cases are. All* cases *must* be reported, *if a job is to be done.* The practicing physician *owes* this *to his community,* as well as to *himself* and to his profession!

XUM

EDITORIAL

Dr. Walter B. Martin

THREE years ago Dr. Walter B. Martin of Norfolk, Virginia, gave up tennis for the slower pace of golf. Other than that, the 66-year-old internist who is serving as 108th president of the American Medical Association for the year beginning in June (1954) shows no signs of retiring to the old rockin' chair.

One of the nation's most distinguished men in his field and a top-ranking authority on medical and hospital matters, Dr. Martin was born at Pulaski, Virginia, on January 16, 1888. He was the ninth of 10 children.

DR. WALTER B. MARTIN

The elder Martin, David, had accumulated a good library over the years which became the educational backbone of his children. In 1891, the family moved to Glade Springs, so that the girls—there were seven—would be closer to a women's college. As the girls completed their education they took over the primary teaching of the younger children.

Between his reading and what Dr. Martin describes as the "coaching" of his sisters, he was able to enter the Virginia Polytechnic Institute at Blacksburg, where he obtained his bachelor of science degree in analytical chemistry in 1909. After teaching chemistry and mathematics for three years at the Norfolk Academy, a day school for boys, he began his medical studies at Johns Hopkins University, Baltimore, Maryland,

XUM

in 1912. Here he obtained his medical degree in 1916, after making Phi Beta Kappa and Alpha Omega Alpha, the honorary medical fraternity.

Dr. Martin taught in public night school and worked at various other jobs to finance his formal education. His experience as a wage earner began at 14 when, because of sickness in the family, he took a job as a hotel night clerk in a small town at $10 a month. Subsequently he was employed by two railroad construction firms and a chemical manufacturing plant, boosting his income to $35 a month.

During his college years he also organized and served as scoutmaster of Boy Scout troops in Norfolk and Baltimore. The only ornamentation in his office today is a small, imitation bronze statuette of a Boy Scout which was presented to him by the Baltimore troop, a group of newspaperboys from the Locust Point section, when he joined the Army in 1917 as a Medical Corps lieutenant.

Dr. Martin served as assistant division surgeon of the 14th Division, whose ranks were decimated by the flu epidemic as they were about to embark for overseas duty. He was discharged in 1919 as a captain and immediately went to Norfolk to begin the private practice of medicine.

In 1942, he set aside the extensive practice he had built up to serve again in the Army Medical Corps, this time as a colonel. At 54, he vigorously sought and finally obtained an overseas assignment to the 10th Army in the Pacific. Before this 14 months tour of duty, including service on Okinawa, Peleliu and Saipan, he served as chief of medicine at Percy Jones Hospital in Battle Creek, Mich., and as medical consultant to the Fifth Service Command.

Between the two World Wars, Dr. Martin had established himself as a church and community leader in Norfolk, and, after his discharge in 1946, he went back to his many activities as diligently as before.

For many years he had served as a deacon of the First Presbyterian Church of Norfolk and in 1953 was named an elder. In 1935, he was a prime mover in organizing the Tidewater Hospital Service Association, a not-for-profit group that sells hospital and medical care insurance, and in helping to put across a city ordinance providing for the pasteurization of milk. He is credited with "creating" in 1939 the Norfolk Hospital Association, which excludes politicians from the administration of city and state funds for the hospitalization of indigents. More recently, he served as chairman of a commission that restored to full operation the Community Hospital of Norfolk. For several years he was chief of medicine at St. Vincent de Paul Hospital and is now medical consultant.

Now a member of the Hoover Commission's Medical Task Force, Dr. Martin is also attending specialist to the United States Public Health Service Hospital in Norfolk and civilian consultant to the Army Air Force and honorary consultant to the Navy Medical Corps.

Immediately following World War II, he was one of three men assigned by the government to tour Army hospitals in Germany and make recommendations for a suitable training program.

He is a past president of the Norfolk County Medical Society, The Medical Society of Virginia, Seaboard Medical Society, Norfolk Community Chest, and Norfolk Hospital Association. He was a regent of the American College of Physicians for several years and first vice president of the college in 1953. He is a member of the Southern Medical Association, American Clinical and Climatological Association, American Society of Clinical Pathologists, American Association for the Study of Allergy, American Association for the Study of Rheumatism, and a diplomate of the American Board

XUM

of Internal Medicine. Other memberships include Nu Sigma Nu and the Norfolk Country Club.

Dr. Martin has served the American Medical Association as a member of the house of delegates from 1936 to 1945, member of the Council on Medical Service from 1945 to 1950, member of the board of trustees since 1946 and its executive committee from 1950 until he became president-elect in 1953. During the national educational campaign against socialized medicine he served as a member of the coordinating committee. Early in 1950 he was chairman of an A.M.A. committee which made a study of and reported on the results of the National Health Act in Great Britain.

His basic concept of a physician's duties may be summed up by the following excerpt from one of his talks:

"The physician should be interested in and responsible for the total health of his community. He should be active in his professional society, in his place of worship and in his community welfare agencies. He cannot, of course, 'cover the waterfront,' but if he selects one or more of these activities he will be a better doctor, with a broader outlook on life and its total responsibilities."

SOCIETY PROCEEDINGS

Accomack County Medical Society.

This Society met on June 10th at the home of Dr. William Clay Fritz who presented two moving pictures—Early Diagnosis of Uterine Cancer and The Therapeutic Use of Cortone and Cortisone.

Dr. Belle DeCormis Fears, Accomack, is president of this Society and Dr. James Corbin Doughty, Onancock, is secretary-treasurer.

Alleghany-Bath Medical Society.

At the annual election on May 26th, held at Hot Springs, the following officers were named: President, Dr. S. G. Miller, Covington; vice-president, Dr. W. P. Gilmer, Clifton Forge; and secretary-treasurer, Dr. R. P. Hawkins, Jr., Clifton Forge (re-elected).

Rockbridge County Medical Society.

Dr. Thomas B. Hedrick, Buena Vista, was recently elected president of this Society. Dr. E. W. Bosworth, Lexington, is secretary.

Fauquier County Medical Society.

At a meeting on June 15th, the following officers were elected: president, Dr. Frank Folk, Warrenton; vice-president, Dr. Sam Adams, The Plains; Dr. John Ringler, Manassas, and Dr. Walter Nicklin, Warrenton; and secretary-treasurer, Dr. Evan Ashby, Jr., Remington.

The Tazewell County Medical Society

Met on June 16th at the River Jack Restaurant, Tazewell, with the president, Dr. W. R. Strader, presiding. Dr. G. D. Vermilya, Richlands, presented a paper on "Gastric Polyposis".

Dr. Mary Elizabeth Johnston is secretary-treasurer of this society.

Wise County Medical Society.

Dr. T. J. Tudor, president, presided at a dinner meeting of this Society, held at the Norton Hotel, Norton, on June 9th. Dr. Louis Aaron, Grundy, presented a paper on "Treatment of Fractures by Intramedullary Pins", and this was discussed by Dr. James Williams, Richlands.

A business session followed at which discussion was held on Hospitalization Insurance Plans, the establishment of convalescent and old age homes, and the rapid rise in rates for malpractice insurance. A schedule of fees for medical services was presented and approved by the Society.

Dr. Leo N. Kirch is secretary of this society.

XUM

NEWS

CALENDAR OF COMING EVENTS

ANNUAL ASSEMBLY IN OTOLARYNGOLOGY—University of Illinois College of Medicine—Chicago, September 6-11

AMERICAN CONGRESS OF PHYSICAL MEDICINE AND REHABILITATION—Washington, D. C., September 6-11

AMERICAN ASSOCIATION OF BLOOD BANKS—7th Annual Meeting—Shoreham Hotel, Washington, D. C., September 13-15

THE MEDICAL SOCIETY OF VIRGINIA—(Annual Meeting)—First Interstate Scientific Assembly—Shoreham Hotel, Washington, D. C., October 31-November 3

SOUTHERN MEDICAL ASSOCIATION—St. Louis, Missouri, November 8-11

A Word to the Wise.

The 107th annual meeting of The Medical Society of Virginia, known this year as the First Interstate Scientific Assembly and jointly sponsored by the Medical Society of the District of Columbia, is now less than three months away. Beginning October 31, and running through November 3, the Assembly will be held at Washington's Hotel Shoreham, and without question will be one of the most interesting scientific meetings ever held in this area. Only a joint meeting of this kind could bring you such a varied and informative program.

It is now, of course, too late to secure a reservation at the Shoreham. However, the Society has been promised 200 rooms at the beautiful Sheraton-Park Hotel—just across the street from the Shoreham and certainly one of Washington's finest. There are approximately 100 rooms still available, so please make your reservations now. Washington during November is truly delightful, and the well rounded program has been planned especially for you!

Remember—a word to the wise is sufficient!

American Medical Association.

Dr. Walter B. Martin, Norfolk, was installed as the 108th President of the American Medical Association at its annual meeting in San Francisco, June 21-25. The installation took place on Tuesday night and was covered by the full ABC radio network and on a local television channel.

Dr. Elmer Hess, Erie, Pa., was named president-elect and Dr. Clark Bailey, Harlan, Ky., was elected vice-president. Dr. David B. Allman, Atlantic City, and F. J. L. Blasingame, Wharton, Tex., were re-elected to the Board of Trustees. Other officers re-elected were Dr. George F. Lull, Chicago, secretary; Dr. J. J. Moore, Chicago, treasurer; Dr. James R. Reuling, Bayside, N. Y., speaker; and Dr. Vincent Askey, Los Angeles, vice-speaker.

Dr. J. Morrison Hutcheson, Richmond, was named as a member of the Judicial Council, one of the most responsible of all AMA assignments.

At the end of the last day of the meeting, 12,063 physicians had registered, with the grand total of all registrants as of closing time on the third day standing at 34,224.

The following members of The Medical Society of Virginia were registered through the fourth day:

Dr. Vincent W. Archer, Charlottesville
Dr. H. G. Armstrong, Harrisonburg
Dr. B. Herman Bailey, Yorktown
Dr. F. Clyde Bedsaul, Floyd
Dr. William Bond, Richmond
Dr. Calvin T. Burton, Roanoke
Dr. Charles M. Caravati, Richmond
Dr. Edward P. Cawley, Charlottesville
Dr. Galen A. Craun, Harrisonburg
Dr. Frank Curran, Charlottesville
Dr. M. D. Delaney, Alexandria
Dr. P. B. Echols, Lynchburg
Dr. E. H. Edmunds, Lynchburg
Dr. Charles J. Frankel, Charlottesville
Dr. Harry M. Frieden, Norfolk
Dr. J. A. Gallant, Richmond
Dr. John H. Gilligan, Arlington
Dr. Robert D. Glasser, Norfolk
Dr. James A. Gooch, Alexandria
Dr. Hugh J. Hagan, Roanoke,
Dr. C. L. Harrell, Norfolk
Dr. Charles H. Henderson, Norton
Dr. Paul S. Hill, Harrisonburg
Dr. William H. Hotchkiss, Broadway
Dr. K. W. Howard, Portsmouth

XUM

Dr. J. Morrison Hutcheson, Richmond
Dr. Edwin P. Jordan, Charlottesville
Dr. E. L. Kendig, Richmond
Dr. Leo N. Kirch, Norton
Dr. Eugene L. Lowenberg, Norfolk
Dr. Walter B. Martin, Norfolk
Dr. William B. McIlwaine, Petersburg
Dr. Samuel E. Miller, Abingdon
Dr. M. T. Moorehead, Duarte, Calif.
Dr. H. B. Mulholland, Charlottesville
Dr. Eugenia E. Murphy, Arlington
Dr. B. W. Nash, Timberville
Dr. Maysville Jane Page, Richmond
Dr. Sidney G. Page, Jr., Richmond
Dr. Rea Parker. Jr., Smithfield
Dr. Edward W. Perkins, Richmond
Dr. W. A. Porter, Hillsville
Dr. Dennis H. Robinson, Bedford
Dr. Milton Salasky, Norfolk
Dr. J. H. Scherer, Richmond
Dr. Frank P. Smart, Norfolk
Dr. Catherine W. R. Smith, Abingdon
Dr. Thomas E. Smith, Hayes Store
Dr. E. C. Toone. Jr., Richmond
Dr. James T. Tucker, Richmond
Dr. Meyer Vitsky, Richmond
Dr. W. M. Wattles, Lynchburg
Dr. Carrington Williams, Sr., Richmond
Dr. Hyman S. Zfass, Richmond

Dr. Payne Heads Medical Examiners.

Dr. Waverly R. Payne, Newport News, was elected president of the Virginia State Board of Medical Examiners at its meeting in Richmond on June 16th. Dr. W. Holmes Chapman, Jr., Suffolk, was named vice-president, Dr. K. D. Graves, Roanoke, re-elected secretary-treasurer.

Dr. John Williams

Has located in Powhatan where he has opened his office for general practice.

The Children's Home Society of Virginia

Will change the address of its Arlington office on approximately August 2nd. It will move *from* 1411 North Garfield Street *to* 3150 Wilson Boulevard, Arlington. Mailing address and telephone remain the same, namely P. O. Box 366 and Jackson 7-6820.

The change is called to your attention so that, if you refer a mother who wants to place her baby for adoption she will not be confused by going first to the wrong place.

The Society's other two offices continue to be at 322 South 3rd Street, Richmond, and 323- 8th Street, S. W., Roanoke.

Dr. Maynard Emlaw,

Richmond, has been named system medical director of the Virginia Electric and Power Company, following the death of Dr. Stuart MacLean, chief medical officer. For the past four years, he has been assistant to Dr. MacLean.

Virginia Society of Ophthalmology and Otolaryngology.

The following officers were elected at the spring meeting on May 7th: President, Dr. G. Slaughter Fitz-Hugh, Charlottesville; president-elect, Dr. Howard L. Mitchell, Lexington; vice-president, Dr. Marion K. Humphries, Charlottesville; and secretary-treasurer, Dr. L. Benjamin Sheppard, Richmond.

Dr. Fletcher D. Woodward,

Charlottesville, has been appointed by the president, Dr. Vincent W. Archer, to represent The Medical Society of Virginia on the Advisory Committee of the Governor's Highway Safety Committee.

South Atlantic Association of Obstetricians and Gynecologysts.

At the regular meeting in January, the following officers were elected: President, Dr. Robert G. Nelson, Tampa, Fla.; president-elect, Dr. Waverly R. Payne, Newport News; vice-president, Dr. John C. Burwell, Greensboro, N. C.; and secretary, Dr. C. H. Mauzy, Winston-Salem, N. C.

Dr. Paul B. Toms,

Martinsville, has been elected president of the Patrick-Henry Tuberculosis Association.

Dr. B. K. Weems,

Waynesboro, has been named as a member of the Board of Directors of the Staunton-Augusta-Waynesboro Muscular Dystrophy Association of America.

The American Dermatological Association

Is again offering a series of prizes for the best essays submitted for original work, not previously published, relative to some fundamental aspect of dermatology or syphilology. Cash prizes of five hundred, three hundred and two hundred dollars will be awarded. Manuscripts typed in English with double spacing and ample margins as for publication, together with illustrations, charts and tables, all of which must be in triplicate, are to be submitted not later than November 15, 1954. They should be sent to Dr. J. Lamar Callway, Secretary, Duke Hospital, Durham, N. C.

XUM

New Doctors in Halifax.

Three new doctors have been added to staff of the Halifax Community Hospital. They are Dr. William A. Fuller, Dr. Lucien W. Roberts, Jr., and Dr. William G. Wysor, Jr.

Dr. Warren Hagood is now associated with Drs. J. D. and William Hagood in Clover; Dr. George Lee Wilkinson is associated with Dr. Lloyd Eastlack in South Boston; Dr. George E. Chappell will have offices in Halifax; and Dr. Joseph E. Mathias is associated with Dr. William C. Brann of South Boston.

Dr. John R. Freeman,

Cape Charles, has been appointed as medical examiner for all inactive Naval Reservists in the Cape Charles areas.

The Third International Congress on Diseases of the Chest,

Sponsored by the Council on International Affairs of the American College of Chest Physicians and presented under the patronage of the Spanish Government, will be held at Barcelona, Spain, October 4-8, 1954. Leading specialists in cardiac and pulmonary diseases throughout the world will participate in scientific discussions dealing with recent advances made in the diagnosis and treatment of heart and lung diseases.

New Maternal and Child Health Clinic at Norton.

The first session of this new clinic was held on June 10th at the Wise County Health Center and will meet on the second and fourth Thursdays of each month.

Dr. William B. Porter,

Richmond, has been made a member of the Advisory Medical Board in America of the American Hospital, Paris, France.

Roanoke Doctors in Civil Air Patrol.

Dr. John L. Harris, Jr., is the medical officer of the Civil Air Patrol Cadet Squadron in Roanoke, and Dr. Frank L. Angell is the assistant medical officer and training officer.

Mead Johnson Scholarship Awards.

Dr. Arch T. McCoy, II, an intern at the Medical College of Virginia, Richmond, and Dr. Robert E. Sotta, an intern at the U. S. Public Health Hospital in Norfolk, have received two of the Mead Johnson General Practice Scholarship Awards. These awards consist of $1,000 each to be used to help defray the expenses of a year's training in a general practice residency. The scholarship program was established in 1952 by the American Academy of General Practice. There are ten awards given annually.

Dr. G. Watson James, III,

Richmond, has been elected a member of the American Society of Clinical Investigation and a member of the Council of the American Federation for Clinical Research.

Dr. John L. Patterson, Jr.,

Richmond, has been elected President of the Southern Section of the American Federation for Clinical Research. He has also been made a member of the American Society for Clinical Investigation.

Parke, Davis & Company Announces New Facilities.

Plans have been announced for new facilities at the 700-acre Parkedale Farm in Rochester, Michigan. This will be used to increase the firm's output of Polio Vaccine for use next summer. The vaccine will be produced in two buildings, one of which will be entirely new. It will be constructed of masonry and steel and the interior will be glazed tile. The other structure will be remodeled to accomodate several thousand monkeys which play an important part in the production of the vaccine.

Officers of Richmond Area Heart Association.

Dr. Reno R. Porter has been elected president of this Association and Dr. Paul D. Camp first vice-president. Drs. Elmer S. Robertson, John Patterson, Robert Trice and Herbert Langford are members of the board of directors.

Dr. Guy C. Richardson,

Bristol, represented the Veterans of Foreign Wars at the annual meeting of the national organization held at White Sulphur Springs, June 18-19. He is national surgeon general of the VFW.

News from State Health Department

Roanoke County will be added to Bedford County forming the Bedford-Roanoke Health District under the direction of Dr. W. P. Jackson. Offices for Roanoke County will be in Salem, Virginia; however, all personnel will not be available until September 1, 1954, and the department will not be in full operation until that time.

XUM

Dickenson County will be added to Russell-Wise forming the Dickenson-Russell-Wise Health District under the direction of Dr. R. W. Jessee. Offices for Dickenson County will be in Clintwood, Virginia.

Campbell County, which has been joined with Bedford County, will now become a part of the existing Charlotte-Nottoway-Lunenburg Health District under the direction of Dr. W. W. Hargrave.

*Dinwiddie County will be separated from Sussex-Surry-Prince George and added to Brunswick-Greensville-Mecklenburg under the direction of Dr. Francis J. Clements. It is anticipated that Lawrenceville will remain as headquarters for the district.

*Sussex-Surry-Prince George will be added to Amelia-Chesterfield-Powhatan under the direction of Dr. E. C. Gates. Chesterfield will be headquarter for the district.

The local health department in Green County will be discontinued.

The Richlands office in Tazewell County will be closed. Tazewell is and will continue to be headquarters of the district.

Drs. Woodward and Moon.

Dr. Fletcher D. Woodward and Dr. Cary N. Moon, Jr., announce their association for the practice of otolaryngology, broncho-esophagology, and maxillo-facial surgery, with offices at the Physicians and Surgeons Building, Charlottesville.

Dr. Armistead Page Booker

Announces the association of Dr. James Burnley Wood, with offices at 1021 West Main Street, Charlottesville. They will limit their practice to infants and children.

Polio Vaccine Trial Needs Physicians' Aid.

More than 600,000 children have completed three inoculations, in the field test of the trial polio vaccine developed by Dr. Jonas E. Salk of the University of Pittsburgh. The emphasis now shifts to the evaluation study under the direction of Dr. Thomas Francis, Jr., University of Michigan School of Public Health. The validity of the evaluation is dependent upon data gathered on poliomyelitis cases in the test groups, *including those children in the first three grades who did not get vaccine.*

In addition, data on cases among family members of participating children are an integral part of the study. Since the number of poliomyelitis cases among the test groups may not be large, it is essential that all cases are completely reported. Early diagnosis, prompt reporting and follow-up, and the securing of *necessary epidemiological information and laboratory specimens* are important factors in the evaluation.

An outline of procedures and copies of necessary forms have been sent to local and state health authorities. It is important that physicians in areas where vaccinations were not given, cooperate in the study by notifying local or state health officers of cases occurring among children who participated in the trials and then migrated to another area and children who go to summer camps. Local health officials also need information on participating children who receive injections of Gamma Globulin.

This phase of the study will depend, to a large degree, on the whole-hearted cooperation of practicing physicians.

Diplomates of the American Board of Obstetrics and Gynecology.

The following Virginia doctors received certification in obstetrics and gynecology by the American Board meeting in Chicago on May 17th: Dr. John R. Bottomy, Fort Lee; Dr. William S. Grizzard, Petersburg; Dr. Theron H. Haas, Radford; Dr. George R. Jones, Richmond; Dr. William W. Manson, Portsmouth; Dr. John J. Marsella, Danville; Dr. Edwin B. Parkinson, Richmond; Dr. Stanley E. Smith, Jr., Norfolk; Dr. Helen W. Taylor, Norfolk; and Dr. Arthur L. Wilson, Winchester.

Urology Award.

The American Urology Association offers an annual award of $1000 (first prize of $500, second $300 and third $200) for essays on the result of some clinical or laboratory research in Urology. Competition shall be limited to urologists who have been graduated not more than ten years and to men in training to become urologists.

For full particulars write the Executive Secretary, William P. Didusch, 1120 North Charles Street, Baltimore, Maryland. Essays must be in his hands before January 1, 1955.

Neuropsychiatric Society of Virginia.

New officers of this Society, elected at the Spring meeting, are: President, Dr. Granville L. Jones, Williamsburg; vice-president, Dr. R. W. Garnett, Jr., Charlottesville; and secretary-treasurer, Dr. George S. Fultz, Jr., Richmond.

*Temporary arrangement until further notice.

XUM

Caleb Fiske Prize Essay.

The Trustees of what is considered America's oldest medical essay competition, the Caleb Fiske Prize of the Rhode Island Medical Society, announce as the subject for this year's dissertation "Modern Developments in Anesthesia". The essay must be typewritten, double space and should not exceed 10,000 words. A cash prize of $250.00 is offered.

For complete information, write to the Secretary, Caleb Fiske Fund, Rhode Island Medical Society, 106 Francis Street, Providence 3, R. I.

Only Deodorants Control Perspiration.

Soap and water do not prevent perspiration odor —only deodorant creams or liquids will do the trick —according to Mrs. Veronica L. Conley, Chicago, assistant secretary of the American Medical Association's Committee on Cosmetics.

Soap and water will remove some bacteria from the armpits, inhibiting perspiration and leaving the area odor-free for a while, Mrs. Conley wrote in Today's Health magazine. But, as it is impossible to remove all the bacteria from the skin by this method, the remaining bacteria resume growth in a short time and the cycle in the production of perspiration odor begins again.

"Prolonged deodorant action comes from leaving behind on the skin a substance that continually inactivates remaining bacteria. Effective deodorant creams and liquids do this; ordinary soap and water do not."

Some people still cling to the old idea that washing daily with soap and water is adequate protection against perspiration odor. "They feel that perspiration odor is no more or less than a sign of uncleanliness. There is evidence, that a few people need no more protection than that afforded by washing the armpits twice a day with ordinary soap and water, particularly if the areas have been shaved. But for most people, ordinary washing is not sufficient.

"There is some variation in intensity and character of perspiration odor in different people. In children, no perspiration odor is present because the apocrine glands are not functioning. In older people, the gland activity is reduced, and there is usually considerably less perspiration odor. A few people, even during the period of greatest glandular activity, have noticeably less perspiration odor than their fellows and require less protection."

Mrs. Conley pointed out that as soap would be a logical product to use as a deodorant, researchers have been and are trying to find a chemical to add to soap which would make it an effective deodorant. Thus far, no such chemical has been proved to be completely satisfactory.

Desires Association.

General practitioner, now qualified Psychiatrist, licensee Virginia, presently practicing in Indiana, desirous of establishing association with group or individual, in Virginia, with view to developing Psychiatric Treatment Center, on an Out-Patients basis, to include Psycho, Electro, and Occupational Therapy. Also interested in Industrial Psychiatry. Must have basic salary, plus. Reply in first instance to "Psychiatrist", care Virginia Medical Monthly, P. O. Box 5085, Richmond 20, Va. (*Adv.*)

For Sale.

Hamilton examining table, Sanborn electrocardiograph, Lumetron Colorimeter, x-ray accessories, miscellaneous G. P. office equipment and instruments. Easy payment can be arranged. In Roanoke, Virginia. Write #100, care Virginia Medical Monthly, P. O. Box 5085, Richmond 20, Va. (*Adv.*)

OBITUARIES

Dr. George Harrison Musgrave,

Promient physician, of Leesburg, died April 20th. He was sixty-nine years of age and received his medical degree from the University of Virginia in 1908. Dr. Musgrave began his practice at Virginia Beach and then located in Southampton County. Following service in World War I, he was in public health work in Richmond for three years, after which he located at Leesburg. Dr. Musgrave had been a member of The Medical Society of Virginia since 1908.

The following resolutions were adopted by the Loudoun County Medical Society:

WHEREAS: Almighty God, in His wisdom, has removed from our midst Dr. George Harrison Musgrave, our friend and brother practitioner;

WHEREAS: Dr. Musgrave has been a physician of exceptional ability in Loudoun County for twenty-seven years;

WHEREAS: Dr. Musgrave endeared himself peculiarly to his patients and his friends by his sterling virtues;

WHEREAS: Among Dr. Musgrave's many virtues these shone out luminously: his unusual sweetness of nature, his charming simplicity, his honest directness, his unwavering gentleness, his extraordinary devotion to duty, his untiring patience, his unalterable loyalty, his constant courage and his high sense of honor;

WHEREAS: In the passing of Dr. Musgrave his friends will suffer a great loss;

THEREFORE, BE IT RESOLVED: That a copy of these resolutions be sent his bereaved family, for whom all the members of this Society wish to express their deep sympathy, a copy be sent to each of the county newspapers, and a copy be sent to the Secretary of the Loudoun County Medical Society for its files.

W. O. BAILEY
For the Loudoun County Medical Society

Resolutions on Miss Edwards.

WHEREAS Miss Agnes V. Edwards was for many years a respected and devoted managing editor of the VIRGINIA MEDICAL MONTHLY, the Advisory Committee of the State Journal Advertising Bureau, in regular active session, voted this day to pass a resolution conveying our sympathy to the Medical Society of Virginia and the Staff of the Journal.

The Conference of Editors and Business Managers of the State Medical Journals has lost a distinguished participant.

BE IT THEREFORE RESOLVED that in the death of Miss Edwards the State Medical Journals have lost a loyal friend and representative.

BE IT FURTHER RESOLVED that a copy of this resolution be sent to the VIRGINIA MEDICAL MONTHLY.

STANLEY B. WELD, M.D., *Chairman*
L. FERNALD FOSTER, M.D.
DOUGLAS W. MACOMBER, M.D.
C. GRENES COLE, M.D.
BRUCE UNDERWOOD, M.D.
ALFRED J. JACKSON, *Secretary and Director*

June 20, 1954

WHEREAS, It has pleased God to call to her reward, our honorary member, Miss Agnes V. Edwards, and,

WHEREAS, She has from its organization been of untold assistance at all times, in many ways, to the Woman's Auxiliary to The Medical Society of Virginia; ever ready to give personal advice when consulted, and ever ready to give space in the Virginia Medical Monthly to further the work of this organization,

BE IT THEREFORE RESOLVED: That, while mourning the loss it sustains in the death of Miss Edwards, the Woman's Auxiliary to The Medical Society of Virginia will ever hold in reverence the beauty of her friendship, and the example of her faithful service;

That an expression of very deep and abiding sympathy be extended her brother, Dr. Charles M. Edwards;

That a copy of these resolutions be published on the Woman's Auxiliary page of the Virginia Medical Monthly, and a copy be kept in the Secretary's Book of Minutes of the Woman's Auxiliary to The Medical Society of Virginia.

ANNE SEAY WRIGHT (Mrs. Fletcher J.)
LOUISE JOHNSON HAMNER (Mrs. John E.)

Dr. Gwathmey.

On March 22, 1954, Dr. Lomax Gwathmey, a member and past president of this society and the dean of Norfolk's surgeons, died at his residence at Bay Colony, Virginia Beach. His period of medical practice had covered more than fifty years when he retired in September, 1948.

He was born November 5, 1869 in Norfolk, the son of William Watts and Mary Tayloe Gwathmey. His early education was obtained in the Begnell and Gatewood preparatory schools, after which he entered the University of Virginia, where he graduated in Medicine in 1889. He then attended the College of Physicians and Surgeons of Columbia University, receiving his M.D. degree from that institution in 1890. After serving as intern in Bellevue and Mt. Sinai hospitals in New York, he, like many others, went abroad and studied under the great teachers of that period, at Vienna and Heidelberg. Returning to Norfolk in 1895 he began the practice of medicine and surgery. In a few years he and Dr. Kirkland Ruffin founded St. Christopher's Hospital which enjoyed a long and distinguished period of service.

In World War I, Dr. Gwathmey volunteered for service early in 1917. He was assigned to duty in July, 1917 and

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served at the Rockefeller Institute, Camp Green and Camp Sevier. He helped to organize Base Hospital,#41, University of Virginia and went with this organization to France. He was detached and sent to an operating unit of Evacuation Hospital #4. While serving with this unit he was wounded by a shell, November 6, 1918 and invalided home December 25th of the same year. He was honored with a personal citation and discharged in January, 1919, with the rank of major, United States Army. Immediately, he resumed the practice of surgery and continued in this field until his retirement.

This, in brief, is a biographical sketch of Dr. Gwathmey, but it tells little of the man as we knew him. He received splendid training in medicine and surgery but what he did with this training is far more significant. His education gave him the disciplined mind, the grasp of realities, the power of creative thought, the ability to ask the right questions, the never flagging curiosity, the quest for ultimates, which, however unattainable, the truly wise man ever craves.

In the last analysis, of course, Dr. Gwathmey will be judged on the basis of his specialized activity and to it he brought a rare ability, a diagnostic acumen, a surgical skill that won him national recognition; and what those who were close to him knew so well; a devotion to duty.

His place as a great surgeon is secure but he was more than a great surgeon. He refused to be pigeonholed in a specialty, however important the specialty might be. Emerson says somewhere, "Let not a man's work eat up a man so that he become all porch and no house." Dr. Gwathmey built a substantial mansion of living behind the porch of his work. Engaged in an exhausting labor, rendering distinguished service in its behalf, he refused to allow it to become an exclusive engrossment. He was alive to all the rich stimuli in the world about him. In his love of nature he "held communion with her visible forms and she spoke a various language." He listened to the song of birds, and earth and sea and sky intrigued him with their beauty. He was loyal to the royal values of life, not as a pose but in deep allegiance to those qualities of mind and heart that raise man above the level of animalism. He was without guile or evasiveness. He was no fence straddler or time server. He hated insincerity.

There were no walls in his soul, on the inside for fellowship, on the outside for ostracism. To him the differences between men were merely marks of identification, never excuses for exclusion. He played no favorites, but reached out with compassionate eyes and in healing effort toward his fellow-men.

It is this estimate, beyond his surgical skill, that will keep him alive in the memory of his many friends.

THEREFORE BE IT RESOLVED, that these resolutions be spread upon the pages of the minutes of the Norfolk County Medical Society and copies be sent to Mrs. Gwathmey and the Virginia Medical Monthly.

N. G. WILSON
WALTER B. MARTIN
A. BROWNLEY HODGES, *Chairman*

Dr. Jackson.

The Northampton County Medical Society realizes it has lost a most valued member in the passing of Dr. J. Walker Jackson. He was a physician who held himself ever ready to minister to the sick in any walk or station in life. Never did he consider himself first. Never was the distance too great, the hour too late or the fee too small for him to give service to those who needed it.

THEREFORE, BE IT RESOLVED that the County Society greatly regrets his passing.

J. R. HAMILTON, M.D., *President*